

KINDERGARTEN I

DISCOVER

Teacher's Guide
2018/2019

Term 2

FOREWORD

This is a pivotal time in the history of the Ministry of Education and Technical Education (MOETE) in Egypt. We are embarking on the transformation of Egypt's K-12 education system starting in September 2018 with KG1, KG2 and Primary 1 continuing to be rolled out year after year until 2030. We are transforming the way in which students learn to prepare Egypt's youth to succeed in a future world that we cannot entirely imagine.

MOETE is very proud to present this new series of textbooks, Discover, with the accompanying digital learning materials that captures its vision of the transformation journey. This is the result of much consultation, much thought and a lot of work. We have drawn on the best expertise and experience from national and international organizations and education professionals to support us in translating our vision into an innovative national curriculum framework and exciting and inspiring print and digital learning materials.

The MOETE extends its deep appreciation to its own "Center for Curriculum and Instructional Materials Development" (CCIMD) and specifically, the CCIMD Director and her amazing team. MOETE is also very grateful to the minister's senior advisors for curriculum and early childhood education. Our deep appreciation goes to "Discovery Education," "Nahdet Masr," "Longman Egypt," UNICEF, UNESCO, World Bank Education Experts and UK Education Experts who, collectively, supported the development of Egypt's national curriculum framework. I also thank the Egyptian Faculty of Education professors who participated in reviewing the national curriculum framework. Finally, I thank each and every MOETE administrator in all MOETE sectors as well as the MOETE subject counselors who participated in the process.

This transformation of Egypt's education system would not have been possible without the significant support of Egypt's current president, His Excellency President Abdel Fattah el-Sisi. Overhauling the education system is part of the president's vision of 'rebuilding the Egyptian citizen' and it is closely coordinated with the ministries of higher education & scientific research, Culture, and Youth & Sports. Education 2.0 is only a part in a bigger national effort to propel Egypt to the ranks of developing countries and to ensure a great future to all of its citizens.

WORDS FROM THE MINISTER OF EDUCATION & TECHNICAL EDUCATION

It is my great pleasure to celebrate this extraordinary moment in the history of Egypt where we launch a new education system designed to prepare a new Egyptian citizen proud of his Egyptian, Arab and African roots - a new citizen who is innovative, a critical thinker, able to understand and accept differences, competent in knowledge and life skills, able to learn for life and able to compete globally.

Egypt chose to invest in its new generations through building a transformative and modern education system consistent with international quality benchmarks. The new education system is designed to help our children and grandchildren enjoy a better future and to propel Egypt to the ranks of advanced countries in the near future.

The fulfillment of the Egyptian dream of transformation is indeed a joint responsibility among all of us; governmental institutions, parents, civil society, private sector and media. Here, I would like to acknowledge the critical role of our beloved teachers who are the role models for our children and who are the cornerstone of the intended transformation.

I ask everyone of us to join hands towards this noble goal of transforming Egypt through education in order to restore Egyptian excellence, leadership and great civilization.

My warmest regards to our children who will begin this journey and my deepest respect and gratitude to our great teachers.

Dr. Tarek Galal Shawki
Minister of Education & Technical Education

Contents

How to Use This Guide

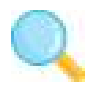


The teaching guide is designed to provide instructors with a clear path to follow to implement multidisciplinary instruction and a dedicated mathematics window, devoted to building early numeracy. If instructors have not used such a guide before, some practical advice follows:

- Read each chapter carefully. Make notes and highlight important details.
- For the multidisciplinary window, read and annotate the Teacher Guide and Student Book side-by-side.
- Take note of the following:
  - What are the students discovering or learning? (Content)
  - What are the students being asked to do? (Activity)
  - What is the teacher discovering about the students? (Assessment)
  - How could you adapt the lesson for the different experiences and abilities in your class? (Differentiation)
- Gather the necessary materials and make any preparations before implementing the lessons. Consider additional classroom management techniques as necessary for your particular class and learning environment.
- During and after implementing each lesson, reflect and make notes on what was successful and possible suggestions for improvement.
- Planning with another teacher can often lead to greater implementation success as it provides an opportunity to discuss classroom expectations, management procedures and ensures that lessons are differentiated to better suit the needs of students. It is suggested that teachers meet with other instructors at least weekly to plan and reflect.

Within the **multidisciplinary** window, content is integrated across different disciplines. In one lesson, students may practice and apply skills in mathematics, social studies, science, and the arts. Each theme includes chapters that coincide with project titles or topics. Projects are used as a means of formative assessment and allow students to demonstrate skills and knowledge across different content domains.

For the **multidisciplinary** guide, chapters are organized into three components:



Discover

- The beginning of each chapter introduces the thematic project to students. Discover allows students to explore what they already know related to the project and create some questions about what they wonder or want to learn. Students discover through observation, questioning, and discussion.



Learn

- Content across disciplines is integrated in the Learn portion of the chapter, with a specific focus on content and skills that students will use to complete the chapter's project. Students practice and apply skills, and investigate concepts to learn and build understanding.



Share

- At the close of each chapter, students share projects, reflect on their learning process, and provide feedback to classmates

Background

Based on the philosophy of the General Framework for the General and Technical Education Curricula 2018/2030 which aims at encouraging an Egyptian citizen to have the predefined specifications and necessary life skills for life and work in the 21st century, four themes have been prepared to represent the infrastructure of the curricula.

TERM 1:
Theme 1: Who Am I?
Theme 2: The World Around Me

TERM 2:
Theme 3: How the World Works
Theme 4: Communication

Each theme is divided into three chapters. Every chapter begins with an **Overview**, **Learning Indicators**, and **Pacing Guide**. It is strongly suggested to thoroughly read each of these sections as they provide beneficial information about the implementation of each project.

- The **Overview** provides a description of each component of the chapter as well as the total number of days for implementation.
- The **Learning Indicators** describe what students should know or be able to do.
- The **Pacing Guide** provides a description of core student learning and actions each lesson.

Each theme involves the integration of subjects and includes projects as a means of formative assessment. Projects integrate topics and concepts of the different fields of study through a number of issues and challenges in order to develop a range of skills and their supporting values. The project includes a number of individual and group activities based on child activity and effectiveness that are fully linked to the theme and its goals.

This curriculum guide is intended to support teachers in the preparation and implementation of projects by providing step-by-step instructions embedded with teacher input, instructional strategies, and classroom management techniques.

Learn more about Education 2.0



Life Skills

The Curriculum and Instructional Materials Development Center at the Ministry of Education has established the General Framework for the General and Technical Education Curricula 2018/2030. The specifications of the framework aimed to develop a creative and innovative citizen who will continue to teach and learn, coexist in harmony with others, who is an effective leader and positive follower proud of his country and heritage, who adheres to his/her values, who has a competitive spirit and faith in work values and who is a promoter of the principles of entrepreneurship.

To achieve the specifications, 14 life skills were identified that must be acquired by each child. These skills are based on the 12 core skills developed by the Life Skills and Citizenship Education in the Middle East and North Africa (LSCE-MENA) initiative, led by UNICEF in collaboration with partners at country, regional, and global levels.



The Life Skills are classified into four learning dimensions:

- **Learn to know:** scientific skills (critical thinking, creative thinking, problem solving)
- **Learn to work:** job skills (cooperation, decision making, negotiation, productivity)
- **Learn to be:** self-skills (self-management, accounting, communication, stability)
- **Learn to live with others:** co-existence skills (participation, sympathy, respect of diversity)

The framework also consists of five main issues: environment and development, health and population, globalization, non-discrimination and citizenship. The curriculum is based on the life skills and local and global issues and challenges within integrated areas of study rather than the separate educational subjects. While life skills are a daily part of the curriculum, each skill will be targeted as the students progress from KG1 through P6.

Several teaching approaches are utilized to support the development of life skills including solving problems, working in teams, participating in play, and completing projects. These approaches allow students to develop life skills through the use of inquiry-based instructional strategies and interaction with peers.

Second Term Pacing Calendar



• On a Roll	Days 61-70
• Shade for a Beetle	Days 71-80
• Where Can I Buy?	Days 81-90



• Paper Garden	Days 91-100
• Painting Feelings	Days 101-110
• A Message Across the Nile	Days 111-120

KGI Pacing Guide

	WEEK	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY
HOW THE WORLD WORKS	1	DISCOVER On A Roll	DISCOVER On A Roll	DISCOVER On A Roll	DISCOVER On A Roll	LEARN On A Roll
	2	LEARN On A Roll	LEARN On A Roll	LEARN On A Roll	SHARE On A Roll	SHARE On A Roll
	3	DISCOVER Shade for a Beetle	DISCOVER Shade for a Beetle	DISCOVER Shade for a Beetle	DISCOVER Shade for a Beetle	LEARN Shade for a Beetle
	4	LEARN Shade for a Beetle	LEARN Shade for a Beetle	LEARN Shade for a Beetle	SHARE Shade for a Beetle	SHARE Shade for a Beetle
	5	DISCOVER Where Can I Buy..?	DISCOVER Where Can I Buy..?	DISCOVER Where Can I Buy..?	LEARN Where Can I Buy..?	LEARN Where Can I Buy..?
	6	LEARN Where Can I Buy..?	LEARN Where Can I Buy..?	LEARN Where Can I Buy..?	SHARE Where Can I Buy..?	SHARE Where Can I Buy..?
COMMUNICATION	7	DISCOVER Paper Garden	DISCOVER Paper Garden	DISCOVER Paper Garden	LEARN Paper Garden	LEARN Paper Garden
	8	LEARN Paper Garden	LEARN Paper Garden	LEARN Paper Garden	SHARE Paper Garden	SHARE Paper Garden
	9	DISCOVER Painting Feelings	DISCOVER Painting Feelings	DISCOVER Painting Feelings	LEARN Painting Feelings	LEARN Painting Feelings
	10	LEARN Painting Feelings	LEARN Painting Feelings	SHARE Painting Feelings	SHARE Painting Feelings	SHARE Painting Feelings
	11	DISCOVER A Message Across the Nile	DISCOVER A Message Across the Nile	DISCOVER A Message Across the Nile	LEARN A Message Across the Nile	LEARN A Message Across the Nile
	12	LEARN A Message Across the Nile	LEARN A Message Across the Nile	LEARN A Message Across the Nile	SHARE A Message Across the Nile	SHARE A Message Across the Nile

Instructional Strategies

The instructional strategies described are woven throughout the Teacher Guide. These are not meant to be the only methods used in the classroom, rather are highlighted as best practices for engaging students in active, inquiry-based learning. As teachers and students gain familiarity with the strategies, instructors may wish to modify and personalize to suit the needs of each individual classroom.

For more strategies visit: tinyurl.com/Edu2-0strategies



INSTRUCTIONAL STRATEGY NAME	BRIEF DESCRIPTION
Attention Getting Signal	Teacher uses an explicit signal to get the attention of the class when they are talking in pairs or working in groups. There are many options for signals, and more than one can be used as long as students recognize it. Options include a clap pattern that students repeat, a simple call and response phrase, or a hand in the air (see: Hand Up). This strategy allows teachers to ask for students' attention without shouting or immediately disrupting student conversations.
Bell or Ring the Bell	Ringing a bell can be used as an attention getting signal (see above) or to indicate to students that it is time to switch stations or move to another learning task. The bell signals a change without requiring the teacher to interrupt students' work.
Brainstorm	Students provide multiple answers for an open-ended question. This can be done as a whole class or in groups or pairs. The purpose of a brainstorm is to list many answers, not to critique whether answers are realistic, feasible, or correct. Once an initial broad list is made, students can go back to answers to prioritize or eliminate some options. This strategy promotes creativity and problem solving.
Call and Response	Teacher reads a line or portion of a text, then students read the next portion. Teacher and students alternate until the entire text has been read aloud. An alternative use of this strategy is for the teacher to read a sentence with a word missing, and students respond with answers, either in unison (if the response is straightforward and known), or with unique answers as appropriate. Call and response encourages a large number of students to vocalize answers instead of limiting answers to individually selected students.
Calling sticks	Teacher writes names of students on popsicle sticks and places them in a can/jar. To call randomly on students, the teacher pulls a stick from the jar. After calling on the student, the teacher places that stick into another can/jar so that student is not immediately called on again. This strategy helps teachers call on a wide variety of students and encourages all students to be ready with an answer.
Can You Guess My 2-1-4?	Gather 2 facts, 1 clue, and 4 images about a topic. Present the facts to students one at a time. Have students discuss the facts and make predictions about what the topic might be. Move on and share the clue. Ask students to refine their predictions based on the new information. Finally, share images. Ask students to share their predictions, providing justifications for their predictions. This strategy engages students and encourages students to make predictions with limited (but increasing) amounts of information.

INSTRUCTIONAL STRATEGY NAME	BRIEF DESCRIPTION
Charades	Teacher organizes students into small groups. One student silently acts out a concept so that his team can guess what he/she is acting out. Students take turns acting out concepts. This strategy promotes critical thinking, careful observation, and prediction.
Choral Reading	Choral reading is a literacy technique that helps students build fluency. During choral reading a group of students reads a passage out loud together with the teacher. If possible, the teacher points to the words as they are being read and students point to the words if written in workbooks. This technique allows students to practice fluency without the pressure of reading solo. It also supports students' confidence in reading and speaking out loud.
Countdown	Teacher counts out loud and with fingers raised over head to ask for students' attention or signal a change of activity. The teacher can determine how quickly to count based on the readiness of students. This strategy allows students to quickly finish a task or thought before turning attention to the teacher.
Count Off	Teacher breaks students into groups by having students count off to a certain number. It's important to tell students to remember their number. For example, if the teacher wants three groups, the first student counts one, the next student says two, the next says three and the next student starts over at one, etc. When all students have counted, tell all the number ones to meet together, all the number twos and then all the number threes. This strategy enables time-efficient grouping and reinforces conceptual number use.
Fishbowl	Students gather around a teacher or group of students who are modeling something new. The students observe carefully as if they are watching fish in a bowl. This strategy promotes full attention of students even when individual students are not actively participating in the demonstration.
Four corners	Each of the four corners of the room corresponds to a possible opinion about a thought-provoking statement. Teacher may post a picture or a prompt in each corner of the room to represent the opinions/statements. Students walk to the corner that interests them or expresses their opinion to group with other like-minded students. This strategy allows students to express opinions and to prepare justifications with others who agree before presenting to the class.
Gallery Walk	As if in a museum, students walk past displays and respond to questions or prompts about the display. This strategy can be used in multiple ways, including to consider ideas posted on chart paper around the room or to view classmates' final products. This strategy encourages diversity of thought. When used at the end of a project, this strategy allows students to celebrate and take pride in their work while also honoring and responding to others' work.
Half the picture	Given half of a picture, students predict what the rest of the picture will look like and draw it. This strategy requires students to use new information to complete an image. This active learning strategy ensures that students are building on prior knowledge and assimilating new knowledge.
Hands Up	Teacher holds a hand in the air to signal that students should stop what they are doing, stop talking, and look up at the teacher. When students notice the teacher's hand up, they also raise a hand to signal to classmates. This strategy is used as an attention getting signal.
Hands Up, Pair Up	Students stand and walk around the room quietly with one hand raised in the air. The teacher says "Stop--Pair Up". Students clap hands and stand together with a nearby student. Anyone with a hand still up needs as partner. Students can easily find each other and pair up.

INSTRUCTIONAL STRATEGY NAME	BRIEF DESCRIPTION
I Do, We Do, You Do	I Do: Teacher demonstrates or models an action to take place, such as reading a passage to the students. We Do: Students repeat the action with the teacher, such as re-reading a passage in unison. You Do: Student practices the learned action without the guidance of the teacher. This strategy supports students by modeling an expectation, allowing for low-pressure practice, then providing opportunities for independent practice.
Imagine That	Teacher describes a person, animal, plant, or situation for students to act out. Students imagine that they are the living thing or are in the situation and act out what happens. This can also be done in groups with a student, or rotating students, acting as the leader. This strategy promotes imagination and long-term memory. (See also: Charades to add a guessing element.)
I See Very Clearly	Teacher tells students he/she sees something. Students guess what it is as teacher gives students clues. Students use observation and listening skills to guess correct object. This strategy emphasizes use and identification of object properties and characteristics.
Jigsaw	Organize students into "expert groups" of 4-6 (e.g., groups of six named A, B, C, D). Assign each group a topic or segment of information to learn. Give students time to learn and process their assigned segment. Then, rearrange students into new groups that include one student from each former "expert" group (e.g., six new groups that include one student from A, one from B, etc.). In the new groups, each student shares information on their expert topics with the rest of the group. This strategy reinforces the concept that learning is a group activity and encourages working together over competition.
KWL Chart	A three-column chart that is used for the duration of a topic of study. It can be used whole group, small group, or individually. Column 1 (Know) contains answers to: What do students already know? Column 2 (Want) contains notes on what students Want to know (questions that they have). This column can be added to throughout the study. Column 3 (Learned) contains notes on what students have Learned and is added to periodically throughout a given topic of study. This strategy reinforces the idea that we bring what we already know into new learning situations, and that as we learn new questions often arise. It also reinforces the skill of taking notes.
Lean and Whisper	Students lean one shoulder in toward one neighbor to answer a question that has a 1-2-word (or short) answer. This strategy engages all students in answering a question without disrupting the flow of the classroom. This is used for KG1 students as a specific type of the "Shoulder Partner" strategy.
Model	The teacher or student demonstrates exactly how to complete a task. The rest of the class can ask questions before repeating what was demonstrated. This strategy allows the teacher to review any safety concerns or difficult aspects of a task, as well as share advice for task completion. This method should not be used for some inquiry activities, as it could over-influence the direction of student thinking.
Number Sign	Teacher can check for understanding quickly by asking a question and giving students a choice of answers. Students hold up one, two or three fingers in response to the question asked. Teacher quickly scans the fingers raised to get a sense of how many students are tracking the material.
One Stay One Stray	After working with partners, one person stays with the work product to present to other students while the second partner walks around and listens to peers in the class share. Then the two students switch roles. Using the strategy, both partners get to share their project and listen to others share.
Pair/share	Students work collaboratively with a partner to solve a problem or answer a question. This strategy asks students to think individually about a topic or answer and then share their ideas and thoughts with a classmate.

INSTRUCTIONAL STRATEGY NAME	BRIEF DESCRIPTION
Popcorn	Call on one student to answer a question. After the student has answered the question, they say "popcorn" and say the name of another student. It is now the turn of that student to answer the question, then pick a new student, and so on. If a student has responded, they should not be called upon a second time during the same popcorn activity.
Role play	Students pretend to be someone else - another student or another person - taking on the actions and dialogue of that person. Role-playing can also be done when speaking as a puppet. This strategy promotes empathy and respect for differences.
Shake It Share It High Five	Students move around the classroom until teacher signals to stop. Students then partner with a nearby student. Partners shake hands, share ideas or work products, then high five before moving around again to find a new partner. This strategy gets students out of their seats and moving, while also allowing them to share with classmates they don't sit near.
Shoulder partners*	Students lean and talk quietly with the person sitting next to them. Shoulder partner can be used literally to just talk to the people sitting on either side, or for slightly larger groups of 3-4 -with everyone's shoulders "touching" (this promotes the ability to speak softly - in sort of a huddle). *See "Lean and Whisper" and "Turn and Talk" for further breakdown for KG1.
Sky Writing**	Teacher or student uses two fingers and straight arm to write a number or letter in the air. For numbers and letters, sky writing can include a grid (lines designated by clouds, a plane, grass, and a worm) that helps break down the direction of each stroke. This strategy allows students to learn and practice what numbers and letters look like before writing with a pencil. **See Sky Writing Procedure section for more information.
Talking Sticks	Students sit in a small group. Teacher gives one student a talking stick (this can be anything-a pencil, actual stick, etc.). Only the student with the stick may speak. The student can then pass the stick to the next person. This strategy ensures that everyone has a turn speaking and that students don't interrupt each other.
T-chart	A T-chart is a two-column graphic organizer that allows students to visually arrange and present information. This strategy is used to compare and contrast.
Think Aloud	The teacher models a process of thinking by speaking aloud what is thought. As an example, "I think I need more color here in my drawing." This strategy models for students the type of thinking they can use in an upcoming activity.
Think Time	Teacher allows a distinct period of silence so that students can process tasks, feelings, and responses. Allow students 15-30 seconds to think to themselves before calling on anyone to provide an answer to the class.
Thumbs Up	Teacher can quickly check for understanding using this strategy. Students hold thumbs up for agreement and thumbs down for disagreement to a question asked by the teacher. Thumbs up can also be used as a way for students to signal to a teacher that they are ready for an instruction.
Turn and Talk	Students turn "knee to knee" and "eye to eye" with a shoulder partner to discuss answers to long-form questions. This strategy allows students to discuss ideas, reflect on learning, and check each other's answers. This is used for KG1 students as a specific type of the "Shoulder Partner" strategy.
Venn Diagram	Teacher draws two or more large overlapping circles as a graphic organizer to show what is the same and different about multiple topics. Teacher notes similarities in the overlapping section of the circles, then summarizes differences in the respective parts of the circles that do not overlap. This strategy allows students to visually see and record similarities and differences.

INSTRUCTIONAL STRATEGY NAME	BRIEF DESCRIPTION
Wait Time	Similar to the think time strategy, the teacher waits at least 7 seconds after asking a question to the whole class or after calling on a student to respond. This provides time for students to think independently before an answer is given out loud.
Whisper	Teacher can provide whole class verbal processing time by allowing students to respond to a question by whispering the answer into their hands. This strategy prompts every student to attempt an answer, with no social-emotional recourse if their answer is wrong.
Word Web	Teacher writes the main topic in a center circle, then creates lines coming out from the circle to record key details about that main idea. This strategy encourages students to more deeply understand a topic and allows students to see how facts or pieces connect back to a larger topic.
Zoo Can	Similar to Calling Sticks, the teacher pulls a name stick from the can and the students must count backwards while acting like an animal. This can be used for relevant content instruction or as a quick break when students need to move and laugh before finishing a task or moving on to a new task.
Carousel	Divide the class into two roughly equal groups and have students stand in two large circles, one inside the other. Students in the inner circle face out and pair with a student in the outer circle. Students in the inner circle share, while students in the outer circle listen and ask questions. The teacher can rotate the outer circle a few times so that students talk with more than one partner. When the inner circle is done sharing, the circles can change places and/or roles. This strategy provides structure for sharing and listening.

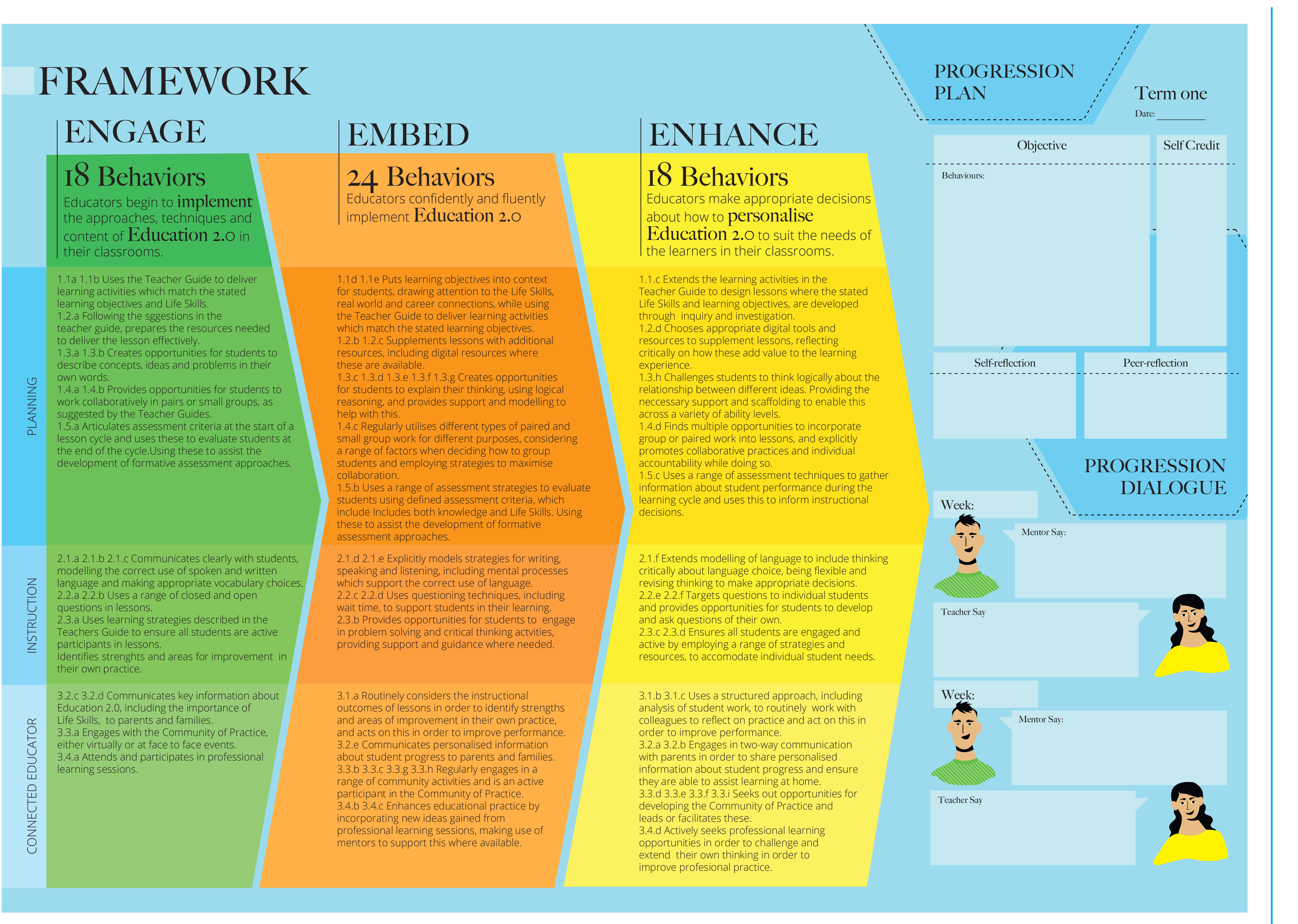
Lesson Preparation Template for Education 2.0

Grade (KG): __________ Class: __________ Date: __________ Absent: ________ Students' total number: __________

Content / Windows	Theme	Chapter / Topic	Lesson / Activities	Learning outcomes	Activities	Teacher's Choices						
						Teacher Guide Pages guide	Teaching strategies	Questions / Modeling	Digital resources	Differentiation / Challenges	Math Journal	Enrichment
Multidisciplinary												
Mathematics												
xx												
English												
XX												

Teacher's Self Reflection	☐	Exceeds expectations	☐	Meets expectations	☐	Sometimes Meets Expectations	☐	Below Expectations	☐

Teacher Framework



Progression Plan and Dialogue Template

Progression Plan

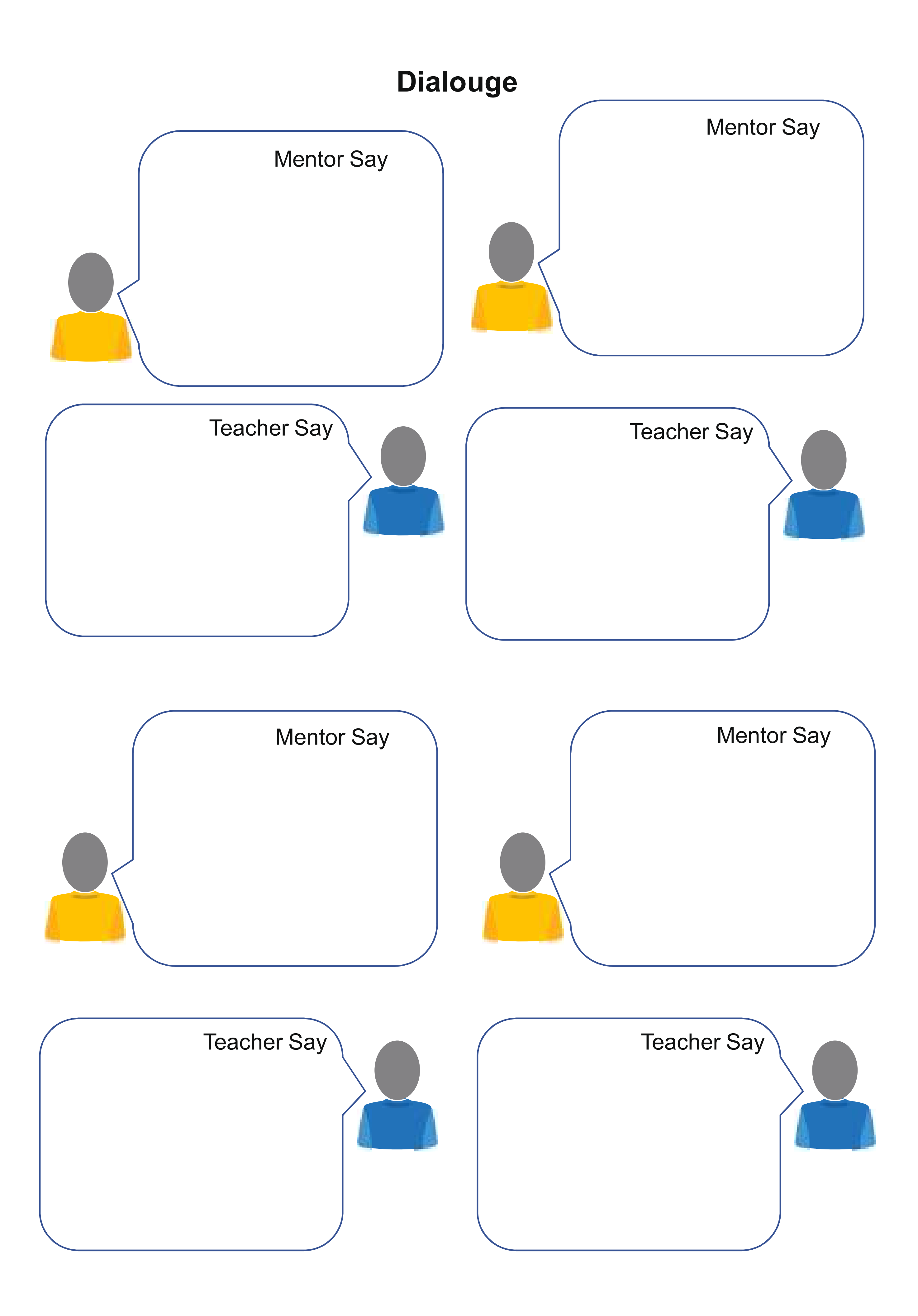
Credits	Objective	Credits	Objective

Self Reflection	Peer Reflection	Self Reflection	Peer Reflection

Credits	Objective	Credits	Objective

Self Reflection	Peer Reflection	Self Reflection	Peer Reflection

Dialouge


Mentor Say
Mentor Say
Teacher Say
Teacher Say
Mentor Say
Mentor Say
Teacher Say
Teacher Say

Digital Resources Available Use

Teachers are encouraged to use resources from the Egyptian Knowledge Bank as digital learning objects. Visit **www.ekb.eg** to access thousands of resources from the world's top education publishers.

NO.	DISCIPLINE	CLIP TITLE	DESCRIPTION	CLIP TITLE	QR CODE
1	Life Skills	**Collaboration**	The video shows students how to collaborate with each other by working together as a team. They share their ideas, take turns, and make decisions together.	https://plu.sh/r7yan	
2	Life Skills	**Respect for Diversity**	Students learn that we are all similar but at the same time, different. We might look different, have different kinds of families, and celebrate different holidays, but ultimately, we are all the same	https://plu.sh/e9h7v	
3	Life Skills	**Empathy**	Students learn how to accept mistakes and empathize with others. They also help each other when things go wrong and help them to fix mistakes	http://tinyurl.com/ y7nd47do	
4	Life Skills	**Sharing**	Students demonstrate sharing their work and sharing their tools and ideas. They take it turns trying different roles and learn how to behave as a leader or as a member of a group.	https://plu.sh/xefa8	
5	Social Studies	**Goods**	Students learn about different types of goods they come across in their every day lives, where to find them, and the different people who produced them	http://tinyurl.com/ y9nzrchh	
6	Vocational Fields	**Commerical Jobs**	Students learn about the goods they use in their daily lives and from where to purchase these goods. They also learn about the jobs of people who produce these goods such as a baker and the library's staff.	http://tinyurl.com/ y7lbmoqc	
7	Math	**Breaking 5 Apart**	Students demonstrate how the number 5 can be divided. They have some fruit that they share together in different combinations of 5	https://plu.sh/4xctp	

NO.	DISCIPLINE	CLIP TITLE	DESCRIPTION	CLIP TITLE	QR CODE
8	Math	**Breaking 10 Apart**	Students play a game making groups of ten and learn how to break apart the number ten in more than one way	https://plu.sh/m3hd9	
9	Math	**Ordering up to 10**	Students learn about the order of things around them and how to apply this to tasks in their daily lives. They also learn how tasks can be done in a particular order.	https://plu.sh/j8wdc	
10	Science	**The Sun**	Students learn about the sun as a source of energy and heat. They also learn about its daily cycle and the difference between shade and light.	http://tinyurl.com/y7l8cbxx	
11	Science	**Motion**	Students play with non-living things and make them move. They learn that force is the source of movement and that there is more than one kind of force, such as pushing, rolling, spinning, sliding, and bouncing.	https://plu.sh/86b7q	
12	Science	**Taking Care of our Environment**	Students learn about the elements of the environment and the importance of taking care of their environment. They learn how they can help each other by cleaning up their environment.	http://tinyurl.com/y7uq4p5q	
13	Journalism	**Journalism Basics**	Students learn how to gather information to write a news report and learn about the devices that can be used to record this report.	https://plu.sh/n3tdu	
14	Information Communication/ Technologies	**Being Safe on the Internet it**	Students learn how to use a strong and appropriate password for digital devices to keep their personal information safe.	https://plu.sh/vrg7w	

KINDERGARTEN I

Multidisciplinary

HOW THE WORLD WORKS

Chapter 1: On A Roll

Theme Overview

On A Roll

COMPONENT	DESCRIPTION	LESSONS
Discover	In Discover, students describe objects in the classroom using their five senses. Students explore how objects in the room can move and identify the materials that make up objects in the classroom.	4
Learn	In Learn, students describe how objects are combined to make a new object and create a piece of artwork out of combined materials. Students also investigate the forces that cause motion. Students learn how the world works as they experiment with ramps.	5
Share	In Share, students test an object they designed to determine how far it can roll down a ramp. Students have an opportunity to improve on their design and share how they created it.	1

Connection to Issues



Environmental: Our earth and environment need to be sustained. We can appreciate the environment as a community.

Globalization: Technology helps us and has changed over time. We have a special culture in Egypt around water.

Life Skills Addressed

On A Roll

DIMENSION	DESCRIPTION
Learn to Know	**Critical Thinking:** • Differentiate between similarities and differences. **Creativity:** • Flexibility in generating a diversity of ideas that are not typically expected and be able to readjust when the situation changes. • Originality in generating new and unique ideas. **Problem Solving:** • Identify the problem.
Learn to Do	**Collaboration:** • Abide by common rules of the team. **Negotiation:** • Good Listening.
Learn to Live Together	**Respect for diversity:** • Respect the opinions of others. **Empathy:** • Help others. **Sharing:** • Awareness of Roles
Learn to Be	**Self-management:** • Set clear goals. **Communication:** • Self-expression.

Learning Indicators

Throughout this chapter, students will work toward the following learning indicators:

READING:

Foundational Skills: Print Concepts
- Recognize that spoken words are represented in written language that follows rules.

Language: Vocabulary Acquistion and Use
- Understand and use question words.
- Use words or phrases acquired through conversation, reading and being read to.

Reading Comprehension: Informational Text
- Actively engage in group reading activities with purpose and understanding.

WRITING:

Narrative
- Use drawings, dictating, and writing to narrate events and a reaction to what happened.
- Recall information from experiences

Process, Production, and Research
- Orally produce complete sentences in shared language activities.

SPEAKING AND LISTENING:

Foundational Skills
- Use appropriate vocabulary, gestures, facial expressions, and body language for the situation.
- Participate in collaborative conversations with diverse partners about topics and texts with peers and adults.
- Ask questions to clear up confusion about topics or texts under discussions.
- Express thoughts, feelings, and ideas clearly.

MATH:

Geometry
- Describe objects in the environment using names of shapes.
- Correctly name 2-dimensional shapes.

SCIENCES:

Skills and Processes
- Identify parts of things and how one part connects to another.

Physical Science
- Compare the different ways objects move.
- Compare the observable properties of a variety of objects and the materials they are made of..

ART:

Drawing and Coloring
Using Materials to Create Art
- Use simple art materials to create a scene from the surrounding environment.

Sculptures
Expressing Self Through Sculpture
- Create shapes using a variety of sculpting materials.

Developing Imagination
- Create artwork from own imagination.

ECONOMICS AND APPLIED SCIENCE:

Managing Individual and Family Resources and Rationing Consumption
Importance of Managing Individual and Family Resources
- Maintain cleanliness of the classroom and school.

LIBRARY:

Types of Media in the Library
Visual and Print Stories
- View digital resources related to the theme.

VOCATIONAL FIELDS:

Industrial Jobs
Respecting and Maintaining Environment and Self
- Arrange and organize school tools in the classroom.
- Work with classmates to maintain the cleanliness in the classroom.

CH 1 Pacing Guide

LESSON	INSTRUCTIONAL FOCUS
1	**DISCOVER: Students will:** • Identify and describe the 5 senses. • Describe purpose of tools used in the classroom. • Sort and count objects in classroom using observations.
2	**DISCOVER: Students will:** • Identify ways objects can move (roll, slide). • Test objects in the classroom to determine how they move. • Sort objects by how they move.
3	**DISCOVER: Students will:** • Identify and observe materials that make up familiar objects (plastic, paper, metal, wood). • Compare and contrast material types.
4	**DISCOVER: Students will:** • Analyze how objects in the classroom are put together. • Identify and label parts of an object. • Combine parts to make a new whole.
5	**LEARN: Students will:** • Identify that a push or a pull causes motion. • Describe objects as moving in the direction of a pull or a push.
6	**LEARN: Students will:** • Create a work of art that depicts a push or a pull.
7	**LEARN: Students will:** • Compare how different classroom items can roll or slide on a ramp. • Explore variables that can affect the distance an object travels on a ramp.
8	**LEARN: Students will:** • Combine materials to create an object that rolls. • Test object by rolling on the floor.
9	**LEARN: Students will:** • Test objects to determine how far they can roll down a ramp. • Measure distance the object traveled using nonstandard units.
10	**SHARE: Students will:** • Share objects created. • Describe how the object was created. • Share test results.

Materials Used

Student book

Pencils

Crayons

Bell

Blackboard or chart paper

Chalk or markers for board

Glue or tape

Markers

Examples of classroom tools (pencils, paper, scissors, rulers, markers, crayons)

Examples of materials (wooden block, glass jar, plastic bottle, metal can)

Scrap pieces of fabric

Wood sticks (craft or natural)

Sheets of plain paper

Varity of plastic (bottles, buttons, straws)

String or yarn

Objects that can roll, push, pull (toys, balls, zippers)

Construction paper (assorted colors)

Cotton balls or pieces of cotton (optional)

Sets of various natural art supplies (beans, sticks, leaves)

Beads

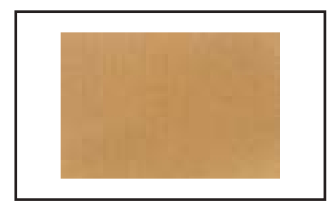
Chenile sticks (pipe cleaners)



Wagon or picture of a wagon

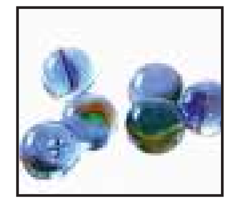


Objects to makae a ramp (cardboard or clipboard, books for height)





Obejcts to test rolling down a ramp (marbles, balls, paperclips, markers, pencil)







Play dough



Tin foil



Lesson 1 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Identify and describe the 5 senses. • Describe purpose of tools used in the classroom. • Sort and count objects in classroom using observations. • Count up to 5 objects.	• Senses • Tools	• Examples of classroom tools: pencil, paper, scissors, rulers, etc. • Student book • Pencils



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

This is a time to excite your students about the unit. Tell them they are beginning a new theme called, "How the World Works."

TEACHER SAY:
We are starting a new theme of study called "How the World Works."
What do you think we might learn?

TEACHER DO: Use **Calling Sticks** to choose three students to answer the question before continuing.

 **STUDENTS DO:** Share ideas when called on about what the theme will be about.

TEACHER SAY:
You will be learning about the world around you.
You will be learning about how some parts of the world are natural and some are made by humans.
You will be learning about how these parts of the world work together.
You will be learning about how you and your family interact with the world.
This is going to be an exciting chapter.
The first chapter is called "On A Roll."
What do you think we will be studying first?

TEACHER DO: Use **Calling Sticks** to choose three students to answer the question before continuing.

 **STUDENTS DO:** Share ideas when called on about what the chapter of study will be about.

TEACHER SAY:
Yes. We will be studying things in our world that roll and move. In this chapter, we will be designing an object to roll down a ramp. We will see how far our object rolls.
Let's start our work by observing things in our classroom.

2. TEACHER DO: Prepare students for playing the game **I See Very Clearly**. In this game you will first model by looking around the room and selecting an object. Then, describe that object using two senses. For example, if you want students to guess a pencil, you can say "I see very clearly something that is yellow and feels hard."

TEACHER SAY:
We will play a game to practice identifying items in our classroom.
We will use our senses to give each other clues.
The game is called I See Very Clearly.
I will find something and say "I see very clearly something...."
Then I will describe the item with two clues.
I can use any of my senses.
Let's name our five senses together. Let's also count each one together.
(point to your ears) One. What sense do my ears help me with?
(point to your mouth) Two. What sense does my mouth help me with?
(point to your nose) Three. What sense does my nose help me with?
(point to your eyes) Four. What sense do my eyes help me with?
(point to your hands or skin) Five. What sense can my hands and skin help me with?

 **STUDENTS DO:** Count and call out the senses that match the body part the teacher points to.

TEACHER SAY:
Great job remembering all your senses.
Okay, Let's try to play I See Very Clearly.
I see very clearly something that feels hard and is yellow.

TEACHER DO: Call on volunteers to guess what you observe in the classroom. (The correct answer is a pencil.)

 **STUDENTS DO:** Guess items in the classroom that meet the description the teacher gave.

3. TEACHER SAY:
Great job guessing using my clues.
In a few minutes, it will be your turn to play I See Very Clearly with your friends.
In order to play, Let's first spend some time observing items in the classroom.
We can use our sense of sight to observe items.
We can use our sense of touch to observe items.
We can use our sense of smell to observe items.
We can use our sense of hearing to observe items.
Do you think you should use the sense of taste to observe things in our classroom?

 **STUDENTS DO:** Respond no to observing with taste in the classroom.

TEACHER SAY:
I will give everyone three minutes to slowly walk around the room to observe items you see.
What do you think you will observe first?
Let's Popcorn around the room and share some ideas for observation.
To play Popcorn, I will call on a student.
That student will share one item he or she will observe.
Then the student will call out another name. The new friend will share another item, then call another name.
Show me a Thumbs Up if you understand or a thumbs down if you need me to explain again.

 **STUDENTS DO:** Show **Thumbs Up** if they understand how to **Popcorn**.

TEACHER DO: Observe students' thumb signals and re-explain if necessary.

TEACHER SAY:
Let's start.
_______ (Student name) please share one item in the room you will observe.

 **STUDENTS DO:** The student that is called on will share, then call out another student's name.

TEACHER DO: Listen to items students are calling out. Redirect students if the item is not something you want students to touch. End the chain of sharing once five or six students have shared an idea.

Next you will be modeling how to observe. Select one classroom object to **Think Aloud** and model how you can observe and describe it using senses.

Note to Teacher: Instead of allowing all students to move freely around the classroom, you can have areas of the room designated and have students rotate in groups to these set areas. Then, while in each area, students can observe objects before rotating to a new area.

4. TEACHER SAY:
Great sharing, friends.
Watch and listen as I show you how I can observe an item.
I have a pencil.
I can look at the pencil.
It looks long and yellow.
I can feel the pencil by rubbing my hand on it.
It feels smooth.
I can squeeze the pencil.
It feels hard.
I cannot hear the pencil.
The pencil does not smell.
What words did I use to describe the pencil?

 **STUDENTS DO:** Share long, yellow, smooth, and hard as words used to describe the pencil.

TEACHER DO: Call on student volunteers to identify words used to describe the pencil.

5. TEACHER SAY:
Let's start observing.
Remember we are walking quietly around the room.

Note to Teacher: If necessary, review expectations for quietly walking around the room. If needed, model how to gently touch the items in the classroom.

 **STUDENTS DO:** Move around the room observing items with their sense of touch, sight, sound, and smell (when appropriate).

TEACHER DO: Move around the room while students are making observations. Insert appropriate senses vocabulary when necessary. Vocabulary can include: loud, quiet, bumpy, smooth, hard, soft, and color words. After about five minutes of observation bring students back together using the **Countdown Strategy**.

TEACHER SAY:
Great observing.
I am going to count back from 10. When I get to 1, I need everyone back in their seats.
10-9-8-7-6-5-4-3-2-1.

6. TEACHER DO: Put students into small groups of four or five students, to play **I See Very Clearly**.

TEACHER SAY:
Now that everyone has had a chance to observe items in our room we are ready to play I See Very Clearly.
I have put you into a group.
Each person will get a chance to say "I see very clearly something______" while the rest of the group guesses.
Every person in the group gets to guess one time.
Are we ready?

 **STUDENTS DO:** Play the game **I See Very Clearly** in small groups.

TEACHER DO: Support students as they play **I See Very Clearly** by suggesting descriptive words or senses to use when students are stuck, or by complimenting students on good descriptions.

7. TEACHER DO: Bring students back together. Have a large chart paper hung at the front of the room.

TEACHER SAY:
You all observed so many different items in our classroom.
You also did a great job describing those items using your senses.
Let's make a list together of the items we observed around the room.
Who can share an item they found in our classroom?

 **STUDENTS DO:** Raise their hand to share items observed in the room.

TEACHER DO: Call on student volunteers. List everything students share on the board. If possible, draw a quick picture next to the word to help students remember what is written.

8. TEACHER SAY:
We observed many items in our room.
We can call many of these items TOOLS for our classroom.
We have learned about tools that workers can use.
Tools help workers do their jobs.
Our job as students is to learn.
We need tools to do our job.
Who can describe how a tool on our list helps us learn and work?
I see that we listed a table.
Tables give us a place to write and work.
Let's find out how other tools on our list help us learn and work.
I will use Calling Sticks to help us share our ideas.

TEACHER DO: Use **Calling Sticks** to have students share tools in the room and the purpose for those tools. If you call on a student who does not have an answer, you can prompt by saying "Which tool on our list help us write/draw/read, etc.?"

 **STUDENTS DO:** Respond with the purpose for classroom tools when called on.

9. TEACHER DO: Pass out student books and a pencil. Open your book to the page Counting Our School Tools and hold it up for students to see.



TEACHER SAY:
In the game we just played, we observed and described tools in the classroom.
We also did a great job of identifying the purpose for the tools in our room.
Now we can count the tools we use in our room.
Open your student books to the page that looks like this called Counting Our School Tools.

 **STUDENTS DO:** Open student books to the appropriate page.

 **READ ALOUD: Count how many tools are in each group. Write the number to show how many.**

TEACHER SAY: Look at the tools on this page. Some are used for writing. Some are used for creating art. As you count, think about how the tools are used.

 **STUDENTS DO:** Write the number to tell how many is in each group.

TEACHER DO: Monitor students as they work and assist in counting and writing the numbers.

Note to Teacher: Prior to starting work, you can model how to write numbers 1 to 5 with students to provide support. After completing the student book page, you can extend the review of math concepts by asking students to identify a group with more and a group with less.

10. Closing: Summarize what students discovered today with classroom tools. Use this time to connect students to the larger theme of the chapter and prepare for tomorrow.

TEACHER SAY:
Today we used our senses to learn about tools in our classroom.
We thought about the purpose for those tools, and who uses them.
Tomorrow we will explore how those tools can move.

I wonder, how do you think the tools in our classroom can move?
Turn to a Shoulder Partner to share your ideas.

TEACHER DO: Allow students a moment to share observations with their partner.

 **STUDENTS DO:** Share predictions about movement with a **Shoulder Partner**.

TEACHER SAY:
I am excited to explore movement tomorrow.
Thank you for working hard today.

Lesson 2 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Identify ways objects can move (roll, slide). • Test objects in the classroom to determine how they move. • Sort objects by how they move. • Identify 2-D shapes as part of a 3-D object.	• Move • Roll • Slide • Flat • Curved • Pull • Push	• A variety of classroom tools: pencil, crayon, marker, book, box, water bottle, eraser, ball, etc. • Chart paper • Student book • Pencils

PREPARATION
Before the lesson starts, pull aside classroom items of various shapes and sizes. Examples include: pencil, crayon, marker, book, box, water bottle, eraser, ball. Have enough materials so partners or triads can each have an item to explore.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY:
Yesterday, we observed tools in the classroom.
We thought about how we use each tool in the classroom and we were able to describe them using our senses.
Today we are going to discover how these different classroom tools can MOVE.
Remember when we learned how baby animals moved?
We talked about HOPPING, SKIPPING, RUNNING, and GALLOPING.
Let's think, how can we move?

TEACHER DO: As you review briefly how animals moved, act out the words as you say them to help students see the movements.

 **STUDENTS DO:** Think about ways they can move their bodies.

2. TEACHER DO: Call on three or four students to share ways they can move. Make a list of movement words that students name. Examples can include: jump/hop, run, walk, skip, wiggle, shake.

TEACHER SAY:
Let's stand up and try to move too.
Can you HOP?
Now let's try to SHAKE.

 **STUDENTS DO:** Follow the movement words called out by the teacher.

3. TEACHER SAY:
Did you know that non-living things can move too?
Let's learn more about how the world works by learning how things in our classroom can move.
I have 2 more movement words to share with you.

These words are harder to act out in our classroom.
Give me a Thumbs Up if you can SLIDE.
Give me a Thumbs Up if you can ROLL.
Take your hand and make it into a fist.
ROLL your hand on the table like this (model how to roll your hand on the table).
Now, SLIDE your hand across the table (model how to slide your hand on the table).

 **STUDENTS DO:** Respond with a thumb signal to answer the teacher's questions. Then, roll and slide their fist across the table.

Note to Teacher: If the words roll and slide are unfamiliar to students, you can model what roll and slide would look like. You can use your arms and move them around in a rolling motion and then move your hands back and forth in a sliding motion. You can also choose to give an example of how wheels on a car can roll and the bottom of a chair can slide.

4. TEACHER DO: Put the classroom tools prepared prior to the lesson out in front of the class. You can choose to name each tool for the students before allowing them talk time with a **Shoulder Partner**.

TEACHER SAY:
I wonder if any of our classroom tools can slide or roll.
I have put some of those tools out in front of us.
We are going to test them to discover how each can move.
Before we start our test, let's make some predictions.
Turn and talk to a Shoulder Partner about the tools you think will ROLL or SLIDE.

 **STUDENTS DO:** Discuss with a **Shoulder Partner** predictions of how the different class-room tools will move.

TEACHER DO: Move around the room listening to students as they share predictions. Use this as a pre-assessment of students' familiarity with movement. When conversations begin to fade, put students into partners or triads.

5. TEACHER SAY:
Great job making predictions.
Let's share some of our predictions.
If you think something will roll, move your arms together in a rolling motion. (class practices together)
If you think something will slide, move your hands back and forth in a sliding motion.

 **STUDENTS DO:** Practice modeling each movement as a class.

TEACHER SAY:
How do you think a ________ will move?

TEACHER DO: Repeat the question for several items you have on display for the class.

 **STUDENTS DO:** Share movement predictions using the hand motions.

6. TEACHER SAY:
Now you will have a chance to test each classroom tool to see how it can really move.
Watch and listen as I show you how I can test this pencil.
I want to see if the pencil can roll.
I will lay it on the table and gently push it.
I will see if it rolls over and over and over.
Now I want to see if it can slide.
I will gently push it and see if it stays on its side and moves across the table.

TEACHER DO: Model how to test the different ways the pencil can move. You can choose to model with a different tool. After modeling, pass out student books along with one of the classroom tools per small group. After each group tests one tool they will exchange with another group to test a new tool. Groups should be able to test five or six different items. You can also choose to switch items for students. Make sure students have a pencil, book, marble, and block to test.

7. TEACHER SAY:

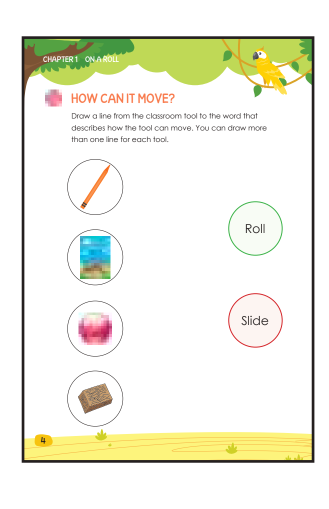
Work with your partner to see if your first classroom tool can roll or slide.
Sometimes your tool will be able to move both ways.
Sometimes your tool will only move in 1 way.
After discovering how your tool can move, raise your hand and you will get to test another tool.

 **STUDENTS DO:** Work with a partner to test the movement of several classroom tools.

TEACHER DO: Provide enough time for students to test several classroom items. When necessary, model again how to test the items' movements. If more support is needed, distribute the same item to each group and lead students through the testing of each object together.

TEACHER SAY:

We are done testing our objects.
I love how everyone politely shared materials.
Please hold up any tools near you so that I can collect them.



8. TEACHER DO: Collect items from students. Then direct students to open student books to How Can It Move? Hold up a copy of the book so that students can see what the page looks like.

TEACHER SAY:

Look at the pictures of the classroom tools on the page.
Point to each picture as I say its name.
Crayon… book… marble… block.
On the other side of the page are 2 boxes.
The box on top says "Roll."
The box on the bottom says "Slide."

 **READ ALOUD: Draw a line from the classroom tool to the word that describes how the tool can move. You can draw more than one line for each tool.**

Note to Teacher: You can choose to model the four objects listed as a whole class and have students record how the object moved instead of students being required to remember what they tested or guess if they didn't have that object. You could guide students through the sorting of rolling and sliding. This can also help students see that one object could be sorted into both the "roll" category and the "slide" category.

 **STUDENTS DO:** Identify the movement of the four objects either individually or with the guidance of the teacher. Draw lines from the tool to the verb that describes how it can move.

TEACHER DO: Prompt students to think about what they observed in their small groups. If necessary, provide students with an object to test again.

9. TEACHER DO: Collect objects that could slide and display them in the front of the classroom (on a table). After students finish working in their books, have them close the books and put them to the side.

TEACHER SAY:

We identified these objects as ones that can slide.
I wonder if they have something that is the same.
When we make a smart guess, we are predicting.
I notice that _______ (name an object) has a flat side.
What shape is this flat side?

 **STUDENTS DO:** Identify a 2-D shape on the side of an object.

TEACHER DO: Call on a student to identify the 2-D shape. Repeat this with different sides of the object. Students should be able to identify square sides, circle sides and rectangle sides. If necessary, review shape vocabulary with students.

Note to Teacher: Students should be familiar with 2-D shape vocabulary. Refer to charts you may have with shape images to help support students in identifying sides of the object.

TEACHER SAY:
Objects can slide when they have flat side.
An object can roll when it has a curved side.
I have a few more objects we did not get to test.
I want you to guess if it will roll or slide or maybe even roll and slide.
I will hold up the object.
If you think it will slide, make a fist with your hand and slide it on the table.
If you think it will roll, roll your fist on the table.
If you think it will do both, use two fists to show me a sliding and rolling motion.
Let's practice the hand movements.

 **STUDENTS DO:** Practice sliding and rolling their hands along the table.

10. TEACHER SAY:
I think we are ready.
What do you think this object will do?

TEACHER DO: Hold up a new object that students have not yet tested.

 **STUDENTS DO:** Make a rolling or sliding motion with their fists to tell their answer.

TEACHER SAY:
Good predicting.
Let's watch to see.

TEACHER DO: Show students if the object can roll or slide or do both. Then repeat the directions for three more objects.

Note to Teacher: To extend the lesson, ask students to explain why they made their prediction. Students should be able to give a reason to support their answer based on what they have discovered so far.

11. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY:
We have had a busy day discovering how the objects in our world move.
We tested objects to see if they can slide or roll.
Tomorrow we will discover what those objects can be made of. Before we finish, turn to your Shoulder Partner and tell them one thing you see or use outside of school that can roll.

 **STUDENTS DO: Brainstorm** common objects that roll with a **Shoulder Partner**.

Lesson 3 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Identify and observe materials that make up familiar objects (plastic, paper, metal, wood). • Compare and contrast material types.	• Materials	• Examples of a variety of materials: wooden block, class jar, plastic bottle, metal can, fabric, paper, etc. • Chart Paper • Student Book • Pencils and Crayons

PREPARATION

For today gather a block of wood, glass jar, plastic bottle, a metal jar/can, a piece of fabric, and a piece of paper. If these are unavailable, find items that can be an example for different material types.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY:
Yesterday we tested classroom tools to see how they can move.
We found objects that can roll or slide.
Turn and share with a Shoulder Partner something you observed that can roll, and something you observed that can slide.

TEACHER DO: As you share each movement word with the class, use your arms and hands to act out the word. Invite students to copy your behaviors.



STUDENTS DO: Copy teacher movements for each movement word. Then, share an object that can roll or slide **Shoulder Partner**.

TEACHER SAY:
Today we will continue observing these objects and finding ways they are the same and different.
We will find out what materials make up each classroom tool.

2. TEACHER DO: Place the material examples (block of wood, glass jar, plastic bottle, metal jar/can, paper) around the classroom. If you have a larger class size, you can provide two of each item to place around the room to minimize group sizes.

TEACHER SAY:
All of our classroom tools are made up of a MATERIAL.
Let's all say that new word "material" (students repeat).



STUDENTS DO: Repeat the word material.

TEACHER SAY:
Everything in our world is made up of materials.

Things are made of wood, glass, plastic, fabric and metal.
Let's see what we can learn about these materials using our senses.
I have set up the materials around the classroom.
We will take time to observe the materials with our eyes, our ears, and our hands.
Remember to touch each material gently.

TEACHER DO: Model how to gently touch each material. Students can rub their hand on the material, they can gently knock on the material to listen for the sound it can make, and to feel how hard or soft the material is.

3. TEACHER SAY:
You will be exploring these materials in a small group.
Each person in the group will get a chance to observe the material.
Remember, we can observe with our different senses.
As you observe, think about how the material feels, looks, and sounds.
Who can share some words we might use to describe an object?

TEACHER DO: Call on volunteers to share senses words such as: hard, soft, smooth, bumpy. Use this as an opportunity to insert new vocabulary such as: thin, thick, clear (see-through). Students can also use words to describe the sound an object might make when tapped on. There is no correct word to describe the different sounds, but students should recognize that glass and wood can sound different when tapped on.

 **STUDENTS DO:** Raise hand to volunteer answers for senses vocabulary.

4. TEACHER DO: Put students into small groups, one group for each item. Assign groups an item to observe for the first round and have them move quietly to stand or sit near that item. After providing two or three minutes (or enough time for each member to observe the object), rotate the groups until every student has observed each material.

Note to Teacher: You can choose to rotate objects to student groups instead of allowing students to move around. One benefit of allowing students to move is that it can help maintain their focus throughout the activity.

TEACHER SAY:
Around the room, we have a block of wood, metal can, plastic bottle, glass jar, piece of paper, and a piece of fabric.
You are not picking up any of the materials.
The material will stay on the table.
You will look with your eyes.
You will gently touch with your hands.
While you observe in your groups, share words to describe the material.

 **STUDENTS DO:** Rotate around the room as instructed, quietly, and gently observing each material.

TEACHER DO: Move around the room as students observe. Support struggling students by suggesting two descriptive words they can choose between, such as “is it soft or hard?” To extend the activity, ask probing questions such as "How do the wood and paper feel different?" Or "Which materials feel the hardest? The softest?"

TEACHER SAY:
Thank you for being such great observers.
Let's all move back to our seats.

5. TEACHER DO: As students sit down, place one classroom tool observed yesterday at each group of students. Make sure the classroom tool you put out has a clear connection to a material the students just observed. This could include: pencil, book, wooden ruler, metal ruler, backpack made from fabric, etc.

TEACHER SAY:
Look at one of the classroom tools we observed yesterday.
Who has a tool that is made of WOOD?

Who has a tool that is made of PLASTIC?
Who has a tool that is made of METAL?
Who has a tool that is made of PAPER?
Who has a tool that is made of FABRIC?
Does anyone have a tool that is made of GLASS?

 **STUDENTS DO:** Raise hands in response to teacher questions.

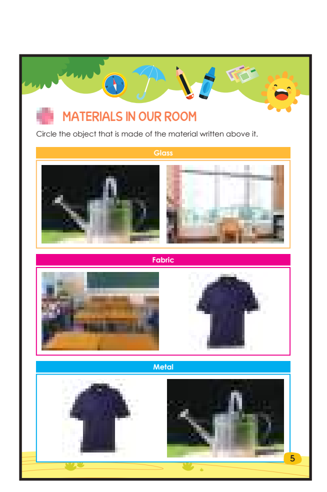
TEACHER SAY:
Wow. Our world is made up of so many different materials.
Let's explore our classroom even more.
Let's take a walk around our room to identify objects in the room and the material they are made of.
As we walk, please only gently touch an object. Do not pick anything up.
Before we start, who can tell me what they need to do once we start walking around?

 **STUDENTS DO:** Volunteer to repeat directions and expectations for the activity.

TEACHER DO: Call on a student volunteer to explain expectations for the classroom walk. Then lead students around the room and point out objects for them to name or guess the materials used.

 **STUDENTS DO:** Walk around the room observing the materials objects in the room are made of.

Note to Teacher: If you do not want students walking around the classroom, you can move to different objects and have the class identify the material type together. The objective of this exercise is for students to connect the materials they observed with objects in their world.





TEACHER DO: Pass out student books and a pencil to students. Hold up a book that is open to the page Materials in Our Room.

TEACHER SAY:
Open to the page that looks like this, It is called Materials in Our Room.

 **READ ALOUD: Circle the object that is made of the material written above it.**

TEACHER SAY:
On the page you can see six boxes with pictures in them. Let's read the words above each box. Repeat after me while pointing to the word on the page.

TEACHER DO: Point to each box and read the word above the box.

 **STUDENTS DO:** Point to each word and repeat after the teacher.

TEACHER SAY: Under each material you can see two pictures of objects you might find in a classroom. Circle the one that matches the word above the box.

 **STUDENTS DO:** Choose which object to circle in each box.

Note to Teacher: You can choose to go through the first page of the activity as a class. You can read the material type at the top of the box, identify the two classroom objects together then give students time to circle their answer before moving to the next material. Then, allow students time to complete the second page independently.

TEACHER DO: Review the correct answers with students by using **Calling Sticks** to choose students to share which object they circled in each box.

 **STUDENTS DO:** Share answers when called upon.

 **READ ALOUD: Draw two objects you observed in the room. Then draw a line to its material.**

TEACHER DO: Model how to complete the page. If you do not have a window in your classroom, choose a different object to model in the student book.

TEACHER SAY: **Next, you will draw two objects you saw today and then choose which material makes up that object.**
I observed a window when I walked around the room.
I can see through the window just like the glass jar.
The window is made of glass.
I will draw a simple picture of the window and draw a line to the box labeled "glass."



STUDENTS DO: Draw two items they observed in the room and draw a line connecting each drawn object to its material in the boxes above.

TEACHER DO: Observe students as they complete the page. Support students as necessary. You can refer students back to the materials they observed to help make connections to objects in the classroom.

Note to Teacher: If completing this activity is too difficult for your class to do independently, you can choose to complete the chart as a class after allowing students to walk around and observe the various objects in the classroom.

6. TEACHER DO: Hang the materials chart on the board. The chart is a larger version of what students have in their student book.

TEACHER SAY:
I want us to have a chance to share what we discovered around the room.
I have a chart hanging up that looks just like your chart from the book.
We will Popcorn around the room to share the objects we drew.
Look at what you drew in your book.
If someone calls your name tell me an object from the room you observed and the material it is made out of.
__________ (student name) please share.

TEACHER DO: Call on a student to start sharing. Record the object using a picture and a word on your materials chart. To extend student thinking you can ask "How do you know it is made out of _______?" Students should be able to support their thinking by making a connection to observed attributes of the materials. An example might be, "I know the table is made of wood because it looks brown like the wooden block." or "I know the window is glass because I can see through it like the jar."



STUDENTS DO: Share an object that was observed and the material it is made of. After sharing, call out the name of another student in the class to share next.

TEACHER SAY:
We now have a great chart to show the objects in our world are made up of many different materials.
Which material did we find the most of in our room?
Which material did we find the least of in our room?



STUDENTS DO: Volunteer to answer the more and less questions.

TEACHER DO: Call on volunteers to answer the more and less questions. Use this as a quick check to see if students can quickly identify more/less. You can support students by counting how many in each material group on the chart and then posing the more and less questions to the class.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY:
Today we observed and identified different materials in our world.
How were the materials we observed similar?
Share your ideas with a Shoulder Partner.

 **STUDENTS DO:** Identify ways the materials were similar with a **Shoulder Partner**.

TEACHER SAY:
How were the materials we observed different?
Share your ideas with a Shoulder Partner.

 **STUDENTS DO:** Identify ways the materials were different with a **Shoulder Partner**.

TEACHER DO: If time allows after students share with partners, use **Calling Sticks** to have students share as a whole class, ways the materials were similar and different.

TEACHER SAY:
Tomorrow we will look at how materials can be put together to create objects in our world.

Lesson 4 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Analyze how objects in the classroom are put together. • Identify and label parts of an object. • Combine parts to make a new whole.	• Combine • Materials • Tools	• Scrap pieces of fabric • Pieces of paper • Wood sticks (tongue depressors or sticks collected from outside) • Student book • Aluminum foil • Plastic water bottles • Plastic buttons • Plastic straws • Tape or glue



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY:
Yesterday we identified different materials that make up objects in our classroom.
Let's use Shake It Share It High Five to share one material and a way to describe that material.
For example, I can say "Metal is a material and it can look shiny."
When I say "Go," start walking around.
When I say "Stop," find a person close to you and shake his or her hand.
Then share your material and description. When you are done, say "Thank you" and high five.
Ready, go.

 **STUDENTS DO: Shake It Share It High Five** and share materials that were learned yesterday.

TEACHER DO: Listen to students as they share to determine what might need to be reviewed as a class. Clarify any misconceptions students might still have. For example, wood can be painted a different color but still be wood. Periodically call out "stop" and "go" so that students change partners.

2. TEACHER SAY:
Do you think each object around us is made of one material at a time?

 **STUDENTS DO:** Respond with yes or no.

TEACHER SAY:
We are going to find out today.
Today we will explore how materials can be put together to make things work in our world.
Look at the clothes you are wearing right now.
Clothes are made of fabric.
But sometimes, clothes have parts made from a different material.
Who has a zipper on their clothing?

 **STUDENTS DO:** Observe his or her clothing for a zipper.

TEACHER SAY:
A zipper is not made from fabric.
What material is a zipper made from?

TEACHER DO: Call on a student volunteer to identify metal as the zipper material.

 STUDENTS DO: Volunteer to identify the material a zipper is made of.

TEACHER SAY:
Who has a button on their clothing?

 STUDENTS DO: Observe his or her clothing for a button.

TEACHER SAY:
A button is not made from fabric.
What material is a button made from?

TEACHER DO: Call on a student volunteer to identify either metal or plastic as the button material. If necessary, tell students the type of material his or her button is made from.

 STUDENTS DO: Volunteer to identify the material of a button.

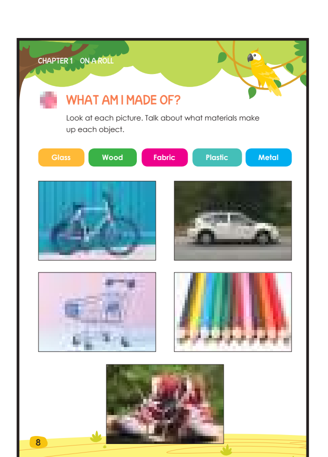
3. TEACHER DO: Place a variety of classroom tools on a table in front of your students. Select one of those objects that is a combination of two materials. Examples could include: scissors made of plastic and metal, a chair made of plastic and metal, a picture frame made of glass and wood (or metal), or a backpack made of fabric and metal.

TEACHER SAY:
I have a few of our classroom tools in front of us.
These tools are all made from more than one material.
I see an object made from _______ and _________ (describe your selected material).
Who can come find that tool?

TEACHER DO: Have a student volunteer come to the front of the room and locate the object that is a combination of the two stated materials. Continue for all the objects you have placed in front of the class.

 STUDENTS DO: Volunteer to locate classroom tools made from a combination of materials.

TEACHER DO: Pass out student books and pencils. Hold up a copy that is open to the page What Am I Made Of?



TEACHER SAY:
Many objects in our world are made from a combination of materials.
Open your books to the page that looks like this called What Am I Made Of?
On the page you can see many objects from our world.
Can you point to the bicycle?
Now point to the car.
Point to the basket.
Point to the pencil.
Point to the shoes.
We are going to start by working in small groups to analyze these objects.
We are looking for materials that they are made from.
Remember, today every object will be made from more than one material. Look closely.

TEACHER DO: Put students into groups of three or four with their books. Pass out a **Talking Stick** to each group.

 READ ALOUD: **Look at each picture. Talk about what materials make up each object.**

TEACHER SAY:
As a group, look at the bicycle.
Using the Talking Stick, take turns each sharing one material the bicycle is made from.

 **STUDENTS DO:** Take turns identifying the materials that make up a bicycle.

TEACHER DO: Listen as groups share and help facilitate turn taking with the **Talking Sticks**. Help clarify any misconceptions about materials that help make up each object. After groups have finished sharing about the bicycle, repeat the directions for each object on the page.

Note to Teacher: If possible, have a real life example of one of the objects on the student book page. You can also view a larger picture to observe or a video on how an everyday object is made to show how materials are put together.

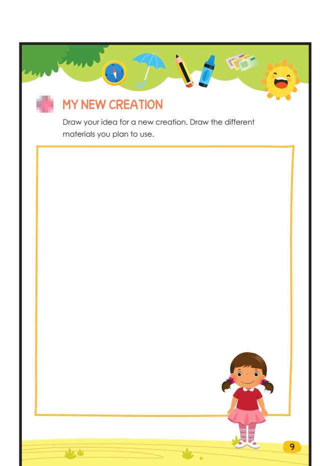
TEACHER SAY:
Great job sharing what you can observe with your group.
Make sure you say "Thank you" to your group members.

4. TEACHER DO: Have students close their books and set them to the side.

TEACHER SAY:
So many objects in our world are made from a combination of materials.
Our world works best when people are able to take different parts and make a new whole.
Let's see if we can put materials together to make something new.

TEACHER DO: Put out various materials for students to put together in a central location in the classroom (a table in the front of the room). Materials can be: scrap pieces of fabric, pieces of paper, wood sticks (tongue depressors, popsicle sticks or sticks collected from outside), aluminum foil, plastic water bottles, plastic buttons, or plastic straws. Give students a variety of materials to create with. Pass out student books and a pencil or crayons. If you have glue and/or tape, provide students with that as well.

TEACHER SAY:
You will get to pick two or three materials to combine to make something new.
You can make a toy to play with or a tool to help you do work.
Before we start working with our materials, Let's think about what we want to make.
Open your student book to the page My New Creation.



 **READ ALOUD:** **Draw your idea for a new creation. Draw the different materials you plan to use.**

TEACHER SAY:
Look at all the materials I have for us to use.
(Identify and share each material that you are providing to students.)
Let's turn and talk to a Shoulder Partner about our ideas.

 **STUDENTS DO:** Turn and talk to a **Shoulder Partner** about how materials can be combined to make something new.

TEACHER DO: Listen to student ideas. Ideas might include: a shovel (wood for a handle, paper as the shovel), a doll (paper for a face, material for the body/clothes), or a bath toy (aluminum foil and plastic).

Note to Teacher: This activity allows students to think creatively. There is no right answer as long as the student can identify the materials used and how the materials were purposefully put together.

TEACHER SAY:
Thank you for sharing your ideas.
Now I want you to draw one idea in your student book.
Remember, your creation has to be made of at least two different materials.
Once you have planned your idea, we can start creating.

 **STUDENTS DO:** Draw a plan for a new creation, making sure to show at least two materials being used.

TEACHER DO: As students plan, ask questions to help confirm if students are able to identify the different materials they are planning to use. Prompt students to explain how the materials will be put together and for what purpose.

Note to Teacher: Depending on your class, students can work individually, in partners, or in small groups (three or four students).

5. TEACHER DO: Once planning is finished, determine the best way to distribute materials students want to use. You can pass out materials, place them in a central location, or call students up to pick the materials they need in small groups.

Note to Teacher: Consider the best way to have students put materials together. Students can use glue if available or you can provide pre-torn strips of tape for students to assemble their object. If you do not have a way for students to put the materials together, students can bend, fold, and manipulate each material or explain to partners how the materials would go together to create a new object.

TEACHER SAY:
Now is your time to create.
I have the materials for you to use.
Remember to think about how you can put the materials together to make something new.

 **STUDENTS DO:** Use the various materials to create something new.

TEACHER DO: Support students in their creating. Help students put materials together. Ask questions to have students explain why they are making certain choices.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY:
Thank you for being such amazing creators.
In a small group, we will share what we created.
When it is your turn, tell your group what you made and what materials you were able to combine.

TEACHER DO: Put students into small groups to share. You can choose to facilitate the sharing using **Talking Sticks** if helpful.

 **STUDENTS DO:** Share in small groups what they created and the materials they used.

TEACHER SAY:
Thank you for sharing.
Tomorrow we will explore how we make our objects move.
Please bring in a small object from home that you can make roll or slide.

Note to Teacher: If your students will be unable to provide objects from home, you can give them specific examples to look for or you can bring in objects for students to engage with tomorrow. Examples include: Toy cars, wind-up toys, Lego toy with wheels, string pull toys, ball, anything with a push-button, zipper, etc.

Lesson 5 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Identify that a push or a pull causes motion. • Describe objects as moving in the direction of a pull or a push. • Count objects up to 10. • Represent and classify data using objects up to 10.	• Push • Pull • Opposite	• **Bell** • String or yarn • Objects that move • Crayons • Student book



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY:
How can you tell if something moves? Explain your thinking (it changes position).

TEACHER DO: Use **Calling Sticks** to call on one or two students for a response.

 **STUDENTS DO:** Explain ideas about motion.

TEACHER SAY:
Can non-living objects move on their own?
Look at this chair.
If I look at it for thirty seconds, will it move?
If I look at it all day, will it move?

TEACHER DO: Use **Calling Sticks** to call on one or two students for a response.

 **STUDENTS DO:** Explain their ideas about motion and how things move.

TEACHER SAY:
If I make this chair move, do you think it will roll or slide on the floor?
How can we make it move on the floor?

2. TEACHER DO: Use **Calling Sticks** to call on one or two students for a response. Have students demonstrate how they can move a chair on the floor. As students move the chair, name the action as a push or a pull.

 **STUDENTS DO:** Move chair on the floor by pushing or pulling it.

TEACHER SAY:
Well done, you made your chairs move.
I saw some of you push your chair to make it slide across the floor.
I also saw some of you pull your chair to make it slide.
We can push and pull. Let's learn more about these new words.
A push or a pull is a force that can move an object.
When I move my arms forward, It is a push.
When I push, an object moves away from me.
Do it with me. (model pushing arms forward)
When I move my arms the opposite way, It is a pull.
When I pull, an object comes towards me.

Do it with me. (model pulling arms back)

 **STUDENTS DO:** Move arms to demonstrate a push or a pull.

3. TEACHER DO: As you read the story below, act out the underlined text.

TEACHER SAY:
I am going to read you a short story. As I read, listen carefully for the motions. Anytime you hear a motion that's a push, I want you to push your arms out.
If you hear a motion that's a pull, pull your arms back.
If you hear a motion that could be a push or a pull, put your hands on your head.

TEACHER DO: Pause briefly after each motion phrase and look up to see if students heard it and are making the motions you are making.

TEACHER SAY: **Omar and Mariam decided to walk to a friend's house one day. They <u>opened the door</u> and walked outside. Omar saw a ball in the yard and <u>kicked it</u>. Mariam <u>opened the gate</u> and they walked down the street. One of their neighbors was in the garden <u>removing weeds</u>. They saw another neighbor taking their baby for a <u>walk in a wagon</u>. They waved hello. When they got to their friend's house, Mariam <u>rang the doorbell</u>.**

 **STUDENTS DO:** Use hand motions to demonstrate a push, pull, or both.

TEACHER SAY:
Well done.
Opening a door can be a push or a pull.
Kicking a ball is a push.
Opening a gate is also a push or a pull.
Removing weeds is a pull.
Pulling a wagon is a pull.
Ringing a doorbell is a push.
Let's read the story one more time and we will all act out the motions described.

TEACHER DO: Read the story again, continuing to act out each motion.

 **STUDENTS DO:** Act out each motion as it is read.

TEACHER SAY: **You are so good at identifying pushes and pulls. In the past few days, we have been observing the objects around our classroom. Yesterday, I asked everyone to bring in a small object from home.**
Please place the object you brought from home in front of you now.
Turn to a Shoulder Partner and tell them what makes it move.
When I Ring the Bell, please stop your discussions and look at me.

 **STUDENTS DO:** Students examine objects they brought in from home and describe to partner how they move.

Note to Teacher: Be sure you have a few objects available for students who may not have brought something from home. Alternatively, you can group students together. Students may also bring in a picture of an object if they are unable to bring the actual item.

4. TEACHER DO: Circulate around the room and listen as students describe how their objects move. Encourage students to use the words push and pull. Ask students if their object can move more than one way. Pass out three long strings (or yarn) to each row or group. As students finish, **Ring the Bell** to capture students' attention for the next activity.

Note to Teacher: If possible, use three different colors of strings to help students remember what each circle is being used for.

TEACHER SAY:
In your rows (or groups), make three circles with your string.
One circle is for PUSH.
One circle is for PULL.

One circle is for PUSH AND PULL.
In your rows, compare the objects you brought from home.
Place them in groups by how they move.
Let's all point to the first circle.

 STUDENTS DO: Point to the first circle.

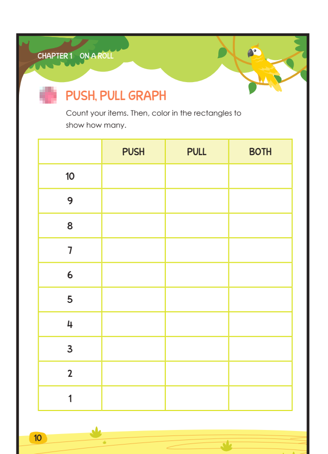
TEACHER SAY: **Place all the objects that move by pushing in the first circle. What objects are we putting in the first circle?**

 STUDENTS DO: Answer in unison, "the ones we push."

TEACHER SAY: **Point to the second circle.**
Place all the objects that move by pulling them into the second circle.
Now, point to the third circle.
Place all the objects that move by pushing AND pulling in the third circle.

 STUDENTS DO: Compare objects brought from home and work collaboratively to place them into groups using the three sorting circles.

5. TEACHER DO: Circulate around the room and observe students placing objects in the correct circles. Be sure students leave items in the circles as they take out their student books. Hold up a copy of the student book to the correct page.


CHAPTER 1 ON A ROLL

PUSH, PULL GRAPH

Count your items. Then, color in the rectangles to show how many.

	PUSH	PULL	BOTH
10			
9			
8			
7			
6			
5			
4			
3			
2			
1			

10

TEACHER SAY:
Excellent work.
Open your student books to the page Push, Pull Graph.

 READ ALOUD: **Count your items. Then, color in the rectangles to show how many.**

TEACHER SAY: **First, count the number of objects you placed in your circle for PUSH.**

 STUDENTS DO: Count the number of items.

TEACHER SAY: **Now, point to the first column labeled "PUSH." Color one rectangle for each item you just counted in the Push circle.**

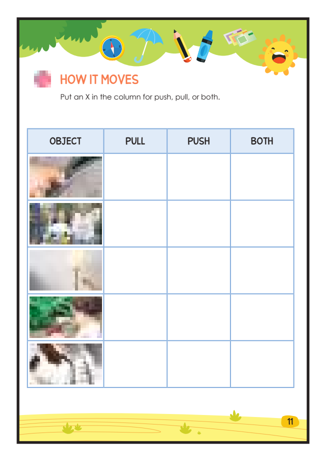
 STUDENTS DO: Color in the correct number of rectangles.

TEACHER DO: Repeat this process for PULL and BOTH.

 STUDENTS DO: Count and record information on a bar graph.

6. TEACHER DO: Circulate around the room and observe students counting and coloring the correct number of rectangles. When groups are done coloring in the graph, have **Shoulder Partner**s in the same group compare their graphs to make sure they show the same information. If they disagree, have the partners recount.

Note to Teacher: You may choose to model this for the class using one group's items before asking students to work independently. Utilize other techniques to emphasize counting – such as counting aloud, raising fingers as students count, or Sky Writing the numbers.


HOW IT MOVES

Put an X in the column for push, pull, or both.

OBJECT	PULL	PUSH	BOTH

11

TEACHER SAY:
Thank you for bringing in objects from home so that we could learn more about pushing and pulling. Please store your objects in your backpacks so you do not forget to take the home.

7. TEACHER DO: Allow time for students to return items to their backpacks. If students do not use backpacks, substitute this language.

 STUDENTS DO: Store items in backpacks.

TEACHER SAY:
Now, let's turn to the page How It Moves in your student book.

First, we are going to name the objects. Then we will decide whether each requires a push or a pull.

TEACHER DO: Point to each object and say its name: a zipper, a swing set, a string on a lamp, a girl playing with a toy car, and a button.

 **READ ALOUD: Put an "x" in the column for push, pull, or both.**

 **STUDENTS DO:** Decide whether each item is pushed or pulled, and mark an X in the corresponding column.

TEACHER DO: If there is time at the end of the lesson, have students share their decisions with a **Shoulder Partner** to compare and discuss answers.

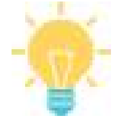
Note to Teacher: You can also use digital resources such as pictures or videos to expose students to a variety of other objects that can be pushed or pulled.

8. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY:
Today we learned that objects need a push or a pull to move.
As you travel home today, see how many examples of pushes and pulls you notice.
Tell your family members when you see them pushing or pulling something at home.
Tomorrow you will create some artwork showing pushes and pulls.

Lesson 6 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS	
Students will: • Create a work of art that depicts a push or a pull.	• Push • Pull	• Crayons • Markers • String • Foil • Yarn • Colored paper • Cotton balls • Old squares of material • Beads • Seeds	• Leaves • Sticks • Chenille stems • Glue • Tape • Scissors • Chart paper • Wagon, or a picture of a wagon • Student book



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER DO: Using **Calling Sticks**, select a student to summarize what they learned about a push and a pull in the last lesson.

TEACHER SAY:
We have learned two new words this week: PUSH and PULL.
If I call your name, please come up and remind us of what we learned yesterday about a push or a pull.

 **STUDENTS DO:** Selected student describes a push and a pull (with prompting if needed).

2. TEACHER DO: Show students the picture of a wagon, or use a digital resource to show the different parts of a wagon.

TEACHER SAY:
Remember when you learned about different materials?
Look at this wagon.
What are some materials that make up the wagon?

 **STUDENTS DO:** Selected student describes parts of the wagon.

TEACHER SAY:
When we think about how the world works, we see that many objects are made of different materials.
This wagon has wheels made of plastic.
The handle is made of metal.
What is the box of the wagon made out of?

 **STUDENTS DO:** Volunteer answers by raising their hands.

3. TEACHER SAY: Today you will get to create artwork made of different materials. When we think about how the world works, we also see that there are many objects we can push or pull. Sometimes we can do both.
Today, you are going to create a work of art that shows how to push or pull an object.

TEACHER DO: Organize simple art materials so that students may self-select items to use. Call students by row to select items.

TEACHER SAY:
Take some time to think about what you want to create.
Think about what materials you would like to use.
Do you think you will only use one material or many different materials?
Remember when we created something new using a variety of materials.

TEACHER DO: **Think Aloud** to model the type of thinking and planning you are asking students to do.

TEACHER SAY:
For example, for my work of art I want to show how you pull a wagon.
I want to use some red paper for the wagon, a piece of string for the handle, and some black paper for my wheels. I will connect the string, the handle, to my hand because this is where you pull the wagon. What would happen if I tried to pull the wagon from the wheel?

 **STUDENTS DO:** Offer predictions about what would go wrong.

4. TEACHER SAY: Now It is your turn to plan your artwork.

TEACHER DO: Provide time for students to think and plan.

 **STUDENTS DO:** Use allotted time to think and plan their art project.

TEACHER SAY:
Share your plan with your Shoulder Partner.
Listen for any suggestions they may have for you.
When I call your row, you may come up and select the materials you would like to use.

 **STUDENTS DO:** Collaborate with a **Shoulder Partner** and select materials when called.

TEACHER SAY:
As you work, please return any materials you do not use. You may also get additional materials if needed.
When finished, please clean up your area and return supplies.

 **STUDENTS DO:** Complete their work of art.

TEACHER DO: Walk around the room providing support and suggestions as well as asking students questions about what they are depicting. Provide a signal for when students have two minutes left to work and when they should finish and clean up.

 **STUDENTS DO:** Clean up their work spaces.

5. TEACHER DO: Allow students to display their works of art in their rows. Divide the students into two groups. One group will stay with their artwork and one group will use a **Gallery Walk** strategy to view their classmates' works of art. Then, the groups will switch places.

Note to Teacher: You can choose to have students sort their creations into two different groups: art that shows something pushed, art that shows something pulled. You can also choose to have students identify if the art shows a push or pull motion as they observe others' work.

TEACHER SAY:
Good work.
Thank you for cleaning and taking care of your classroom.
We are going to take some time to enjoy each other's works of art.

I will divide the class into two groups.
One group will remain in your space and explain your artwork as students come past you.
The rest of the class will do a Gallery Walk around the classroom.
If you are sharing, tell the students near you about the object in your artwork.
If you are listening, tell the artist one thing you liked or ask the artist one question about their artwork.

 **STUDENTS DO:** Share and display their works of art.

TEACHER DO: When the first group of students is done sharing, have students switch groups so that everyone gets a chance to do a **Gallery Walk**.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY:
You did a wonderful job explaining and sharing your works of art today.
Tomorrow we are going to explore more about motion.
What is something you are still wondering about how objects move?
Tell your Shoulder Partner.

 **STUDENTS DO:** Share something they are wondering about to a **Shoulder Partner**.

TEACHER DO: Use **Calling Sticks** to ask for students to share something they are wondering about to the whole class. Record responses on chart paper to refer to as the chapter progresses.

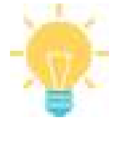
TEACHER SAY:
When I call your name, please tell us something you are still wondering about how objects move.

 **STUDENTS DO:** Share something they are wondering about to the class.

TEACHER SAY:
I am going to post this paper in the classroom.
Let's see if we can answer some of these questions by the end of the chapter.

Lesson 7 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Compare how different classroom items can roll or slide on a ramp. • Explore variables that can affect the distance an object travels on a ramp.	• Ramp • Higher • Lower • Heavier • Lighter • Distance	• Ramp – cardboard, wood, clipboards, dry erase boards, books, rulers • Books to elevate ramps • Objects to roll down ramp – marbles, balls, blocks, crayons, paperclips, paper, marker, pencil • String • Masking tape • Student book



Learn (90 minutes)

Directions

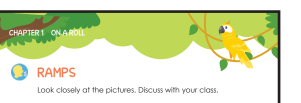
1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY:
Remember when you looked at how classroom objects can roll?
What were some of the objects that could roll?
What were some objects that could slide?

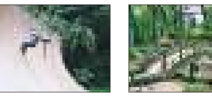
2. TEACHER DO: Use **Calling Sticks** to call on two or three students to answer.

 **STUDENTS DO:** Respond to questions.

TEACHER DO: Pass out student books and pencils. Hold up a copy to the correct page.









TEACHER SAY:
Turn to the page Ramps in your student book.

 **READ ALOUD: Look closely at the pictures. Discuss with your class.**

TEACHER SAY: Listen carefully to my question, then whisper your answer into your hand like this.

3. TEACHER DO: Cover your mouth with your hand and whisper quietly the following: "Talk quietly like this."

TEACHER SAY:
Ready for your question? Remember to whisper your answer into your hand. Here it is. How are these pictures similar?

 **STUDENTS DO: Whisper** the answer into their hands.

TEACHER SAY:
Now turn to your Shoulder Partner and share what you whispered.

 **STUDENTS DO:** Share their answer with a **Shoulder Partner**.

4. TEACHER DO: Listen for student responses. Select two students to share their answers out loud with the entire class. Repeat to ask students to describe differences between the images.

TEACHER SAY:
Each of these pictures show a ramp. A ramp is a slanted surface. You can hold up your hand at an angle like this to show me a ramp. Can everyone show me a ramp with your hand?

 **STUDENTS DO:** Hold up hands at an angle to model a ramp.

TEACHER SAY:
Raise your hand if you have ever seen any of the ramps in these pictures.

 **STUDENTS DO:** Hold up hands.

TEACHER SAY: Where have you seen a ramp similar to the pictures?

TEACHER DO: Call on a few students with raised hands to share their experiences.

 **STUDENTS DO:** Share experiences.

TEACHER SAY: I wonder why we use ramps.
Look at the picture of the person in the wheelchair. Why do they use a ramp?

5. TEACHER DO: Use **Calling Sticks** to call on two or three students to answer.

 **STUDENTS DO:** Explain why ramps are used.

TEACHER SAY:
A ramp can make it easier for things to slide or roll.
Imagine you needed to carry a heavy box upstairs.
That would be very hard.
Now imagine you had a ramp to SLIDE the box up.
Would that make the job easier?

 **STUDENTS DO:** Respond with yes or no.

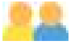
TEACHER SAY:
Today, we are going to explore rolling and sliding objects down ramps. We are going to do an experiment.
To start, we need to make a ramp.
We can make a ramp using a book, or a piece of cardboard held at a slant.

6. TEACHER DO: Demonstrate how to make a ramp using a few books and a piece of cardboard or any of the materials listed above. Call attention to the position of the cardboard and name this as a slant. Use **Calling Sticks** to select a student to demonstrate how they can make an object go down the ramp.

TEACHER SAY:
When you place the cardboard like this (model for students), it is called a slant. Repeat the word, slant.

 **STUDENTS DO:** Repeat the word slant.

TEACHER SAY:
Tilt your hand like this (model for students), at a slant, and say "slant" one more time.

 **STUDENTS DO:** Hold up hands at a slant and repeat "slant."

TEACHER SAY:
Your classmate is going to place an object on the ramp.
Let's watch and see if they use a push or a pull to put it in motion.

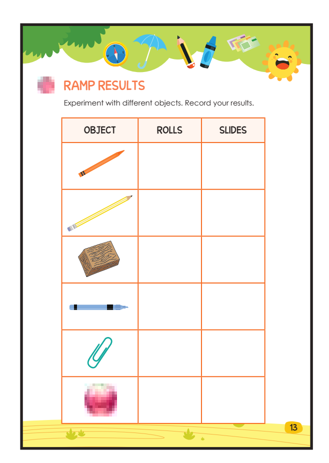
 **STUDENTS DO:** Selected student places object on ramp and pushes to start it moving.

TEACHER SAY:
You saw your classmate push the object. Nicely done.
We have been learning so much about how the world works.
Let's test some of our classroom objects to see how they slide and roll down a ramp.

7. TEACHER DO: Students may work in groups with their rows. Ensure that each group has a ramp, a crayon, a pencil, a block, a marker, a paper clip, or a marble.

Note to Teacher: Many other materials may be used to create ramps such as dry erase boards, clipboard, piece of wood, rulers, etc. For this activity, each group does not need to have the exact same ramp, so students can be encouraged to be creative with the type of ramp they use. If your school has a playground area with a slide, you can use the slide as a ramp. Testing materials can be easily stored in a plastic bag to make distribution to students easy. One student from each group can come to a central location to pick up and return their materials.

TEACHER DO: Pass out student books and pencils. Hold up a copy to the correct page.



TEACHER SAY:
Open your student books to the page Ramp Results.
Let's compare the objects in front of you to the pictures on your page.
As you experiment, place an "x" in the column that shows if your object rolls or slides down the ramp.

 **STUDENTS DO:** Turn to the correct page in the student book

8. TEACHER DO: Hold up the student book page and point to the two columns: one that says roll and one that says slide.

TEACHER SAY:
In your groups, take turns rolling or sliding your classroom objects down the ramp.
Watch the object and choose whether it slides or rolls.
Please send one person from your group to pick up your materials.
When you finish testing, please return your materials.

Note to Teacher: Suggested objects are shown on the student book page. Ensure that students match objects you have distributed to the pictures on the page. Instruct students to test whether objects roll or slide down the ramps one at a time. If you feel your students need more directions, demonstrate with one object for the entire class.

 **READ ALOUD: Experiment with different objects. Record your results.**

 **STUDENTS DO:** Test pushing or pulling various objects down a ramp. Record results on the table provided.

9. TEACHER DO: Circulate around the room as students experiment and be sure they are recording their results correctly. As students explore, you can ask the following questions to guide their learning: What does it mean to push an object? Does it matter how hard I push something? Where does an object go when I push it?

TEACHER SAY:
Let's look at your student book.
Did the crayon roll or slide? (Choral response)
Did the pencil roll or slide? (Choral response)
Did the marker roll or slide? (Choral response)
Did the paperclip roll or slide? (Choral response)
Did the paper ball (or marble) roll or slide? (Choral response)
Excellent work.
Based on your testing, would a pair of scissors roll or slide? (Choral response)
Now, look at the objects that rolled. How are they similar?

 **STUDE NTS DO:** Volunteer answers with raised hands.

TEACHER SAY: **What types of shapes roll?**

 **STUDENTS DO:** Volunteer answers with raised hands.

TEACHER SAY:
Did you notice that some of the objects that rolled went a longer distance than others? What do you think makes an object go a longer distance?

TEACHER DO: Use **Calling Sticks** to call on two or three students to answer.

 **STUDENTS DO:** Respond to questions.

TEACHER SAY: **Let's find out more about how FAR different objects roll down a ramp. Turn to page Go the Distance.**

10. TEACHER DO: Pass out one long piece of string per student and a piece of masking tape 30–40cm long to each group. This is a guided practice lesson. Allow time to complete each step before moving on. Model for students how to tape their string at the end of the ramp and place a piece of tape on the string where the object stops.

Note to Teacher: Depending on your classroom, this may be difficult in small groups. You may choose to demonstrate for the entire class, and have students assist you with the demonstration.

TEACHER SAY: **You can test how the height of the ramp affects the distance your object rolls.**

 **READ ALOUD:** **Complete each part with the teacher.**

TEACHER SAY: **Make a plan for how to test your idea.**

 **READ ALOUD:** **Draw the materials will you use.**

TEACHER DO: Model and **Think Aloud** to demonstrate the next experiment for students.

TEACHER SAY: **First, I am going to roll my object down the ramp. Then before I pick it up, I am going to measure how far the object went using the string like this.**

TEACHER DO: Model for students taping the string to the end of the ramp, and the other end to the floor so that the string is stretched flat. Roll your object down the ramp, and place a piece of tape at the spot where the object stopped.

 **STUDENTS DO:** Repeat the actions the teacher demonstrated.

TEACHER SAY: **Now, change the height of your ramp.**
Roll your object down the ramp again, and measure how far it goes with another piece of tape on the string.
Look at the two pieces of tape. Did the taller ramp result in the object rolling farther?

 **STUDENTS DO:** Repeat a second test with a different ramp height.

 **READ ALOUD:** **Compare the tape on your strings. Circle which ramp made the object roll farther.**

TEACHER SAY:
As I call your row, tell us what you changed and what happened.
Hold up your strings.

 **STUDENTS DO:** Complete experiment and share results.

TEACHER SAY: **As I call your row, please return all your materials.**

 **STUDENTS DO:** Return materials and tidy work area.

TEACHER SAY:
In your groups, I want you to think and talk about your work today.
What part of this activity was hardest for your group today?
What helped your team?

 **STUDENTS DO:** Reflect and discuss in groups.

TEACHER DO: Use the **Four Corner Strategy**. Divide class into four groups by rows. Send each group to a corner of the room. For example, rows one and two go to one corner, rows three and four go to another corner, etc. Allow time for the different groups to discuss what was hardest and what helped them in this activity.

TEACHER SAY:
As I divide the class into four groups, go into the corner I point to, and wait quietly.
In your groups, talk about the hardest part of this activity and what helped your team.
Take turns and listen to your classmate's responses.

 **STUDENTS DO:** Reflect and discuss in four corner groups.

TEACHER DO: After a few minutes, call for students' attention using a strategy like **Countdown** or **Ring the Bell**.

TEACHER SAY:
Great job listening and speaking.
It is important to remember that scientists sometimes have problems during experiments.
It is okay if something doesn't work like you thought it would.
It is also important to know how to ask for and get help.
Thank your group partners and return to your rows.

 **STUDENTS DO:** Thank group partners and return to rows.

11. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY:
You did a great job acting like scientists today.
You wondered what would happen.
You made a plan and tested your idea.
You recorded your results and you shared what you learned.
Tomorrow, you will have a chance to make your own object to roll down a ramp.
What will start the motion — A push or a pull?
Will you make a big object or a small one?
Will you make a heavy or light object?
I wonder if you will test some items at home tonight?

Lesson 8 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Combine materials to create an object that rolls. • Test object by rolling on the floor.	• Test • Roll • Farthest	• Playdough • Fabric • Paper • Aluminum foil • Tape or glue • Student Book • Pencils

PREPARATION

Have playdough made for students to use if you are unable to have clay. A simple playdough recipe is: Mix 250g flour (2 cups) and 50g salt (1/4 cup). Mix 140ml (1/2 cup) warm water with the mixture. Knead together. Add extra flour until the dough is no longer sticky. You can make a larger batch depending on your class size. Also, plan in advance how you will label the created objects with students' names at the end of class.



Learn (90 minutes)

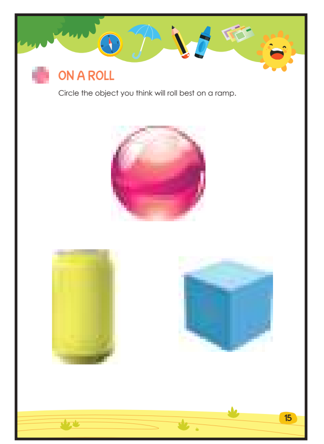
Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage st dents to lead this routine as they become more comfortable.

TEACHER SAY: We have discovered and learned so much about how objects in our world can move.
Let's remember the objects that rolled the best on the ramp.
Turn and talk to a Shoulder Partner about which objects rolled the best on the ramp.

 **STUDENTS DO:** Share with a **Shoulder Partner**.

2. TEACHER SAY:
Today you will design and create an object that can roll down a ramp.
Your goal will be to create the object that rolls the farthest down a ramp.
I have different materials for you to use today as you create something that will roll.
I have paper, aluminum foil, cardboard, and playdough.
Your first job today is to think of which material or materials you think will be the best to create something that can roll.
Then think of how you can put those materials together to make an object that will roll.



TEACHER DO: Pass out student books and pencils. Hold up a copy of the page for students to see.

TEACHER SAY:
Turn to the page On A Roll.
I see examples of three different objects.
I want you to think about which objects will roll best on a ramp.

 **READ ALOUD: Circle the object you think will roll best on a ramp.**

 STUDENTS DO: Circle one object on the page that he or she believes will roll the farthest on a ramp.

TEACHER DO: As students circle an object, be prepared to place students into groups of four or five.

3. TEACHER SAY:
Now you will get to share which object you circled with people in your group.
When you share what you circled you will also give a reason why.
You will say "I think _____ will roll the farthest because_________."
Maybe you think the shape of the object is best for rolling or the size of the object or maybe the material.
Each student in the group will get a chance to share.
Make sure you are listening to everyone in the group.
The ideas that are shared will help you when you design your own rolling object.

TEACHER DO: Put students into small groups. Listen as students share and help students to defend their choice.

 STUDENTS DO: Share their choice and give a reason to defend that choice.

4. TEACHER DO: Show each material you are providing to students. Give students time to think about each material individually before sharing the next material choice. Then allow students to begin to plan in their book.

TEACHER SAY:
Say thank you to your group members for sharing and move back to your seats.
We have observed objects that can roll and objects that just slide.
We have observed different materials and how those materials make many things in our world.
We have practiced creating objects from materials in our world.
We have discovered how different objects roll on a ramp and measured how far those objects can roll using our string.
We are now ready to put all of our learning to work.
Open your book to the page My Ideas on A Roll



 STUDENTS DO: Turn to the correct page.

TEACHER SAY: **Here is where you will have a chance to draw what you want to make that will roll down a ramp and travel far.**
Before we start creating, we will first draw a plan.
Before we can draw our plan, let's make sure we know what our problem or challenge is.
Who can share what our challenge is today?
What are we trying to create with all of our materials?

 STUDENTS DO: Volunteer to restate the challenge of creating an object that can roll the farthest down a ramp.

TEACHER DO: Call on two or three students to restate the challenge. Clarify any misconceptions students may have about what they are working on today.

TEACHER SAY:
Yes. We are creating an object using these materials that will roll farthest down the ramp.
We already know a lot about rolling.
Now we will use what we know about rolling on a ramp to create our own object.
After we have a plan, we can build and test our object.

 READ ALOUD: **Draw your plan for a rolling object.**

 STUDENTS DO: Sketch a plan for using the materials in the classroom to create an object that will roll the farthest down a ramp.

5. TEACHER DO: After students have completed a plan they can start creating.

Note to Teacher: You can allow students to work individually, in partners or in small groups depending on the needs of your class. The goal of the activity is for students to engage in the design process. As students create, have them pause and come back together periodically as a group. Allow time to practice rolling their object on the floor or on a table. Use this informal test to raise questions that will help them reflect. Support students in thinking of ways to continually improve their object so that it rolls better. Tomorrow students will have the opportunity to test their objects on a ramp.

TEACHER DO: As students work, move through the room to offer support. Ask questions such as: "Tell me, why you are using this material?"

 **STUDENTS DO:** Create an object from various materials that will roll.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER DO: Collect objects that students created today and put them in a safe place in the room. Make sure to label the objects with students names.

TEACHER SAY:
You did a fantastic job designing and creating a rolling object today.
I am proud of how well you _________ (give specific example of something observed today).
Creating something new can be difficult.
Turn and share with a Shoulder Partner one part of creating today that was difficult and one part of creating that was easy.

 **STUDENTS DO:** Share with a **Shoulder Partner** a difficulty and a success.

TEACHER SAY:
Thank your partner for sharing with you.
Tomorrow we will test our objects on the ramp.

Lesson 9 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Test objects to determine how far they can roll down a ramp. • Measure distance the object traveled using nonstandard units.	• Longer • Shorter	• Ramps – cardboard, wood, clipboards, dry erase boards, books, rulers • Objects created in previous lesson • String • Masking tape • Books to elevate ramps • Student book



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY:
Yesterday, you created an object to roll down a ramp.
Today you will get to test your object to see how far it goes.
Scientists and engineers often repeat their tests.
You will test your object three times.
Why do you think we do multiple tests?

TEACHER DO: Use **Calling Sticks** to elicit responses for three or four students.



STUDENTS DO: Respond to question.

TEACHER SAY:
You have learned a lot about how objects move.
You tested how the height of a ramp can affect the distance an object travels.
You can review Go the Distance in your student book to remember what you learned.

2. TEACHER DO: Pass out student books.

Note to Teacher: Digital resources and online simulations that show objects on a ramp are also available. You may also want to check the library for children's books on forces and motion. Snap-together cubes can also be used for nonstandard measurements if available.

TEACHER SAY:
Turn to page Let's Roll, in your student book.
First, as a group, decide on how high to make your ramp using books.
Take one minute to talk in your group about how many books you will use.
I will hold up my hand with 5 fingers and say, "five," when It is time to stop talking and turn to look at me.
I will count backwards to one. When I get to one, it should be quiet.



STUDENTS DO: Discuss how many books to use for the height of the ramp.

TEACHER DO: Use a **Visual Countdown** strategy to regain student attention by holding up five fingers and saying loudly, "five," then hold up four fingers and saying, "four." Continue to one. By

the time you get to one, the students should be quiet and looking at you.

Note to Teacher: Other ways to get students attention when there is a lot of noisy activity and excitement include quickly turning light switch off and on or playing a quick music clip.

TEACHER SAY: Look at the stacks of books in the student book.

 **READ ALOUD: Circle how many books your group will use.**

 **STUDENTS DO:** Circle the number of books the group plans to use.

TEACHER SAY: You will also record the results of your tests on this page.
Let's review how to measure your distance (model the following for the students).
Place a piece of tape on the end of your strings and tape it to the end of your ramp.
Stretch your string out and tape the end of the string to the floor.
Roll your object down the ramp.
Place a piece of tape at the spot where the object stopped.
Write the number of your test on the masking tape where it stopped.

TEACHER DO: Pass out materials: ramps, three strings per group, objects created, and masking tape.

Note to Teacher: Materials can be easily stored in large plastic bags for easy distribution. It is a good idea to label the bags with a group name or number. You can also assign a row leader to distribute and return materials. If string is unavailable, students can use one long piece of masking tape and make marks on the tape where the object stops. You will need to carefully collect these strips of tape by group and hang them in the room where they can be used in the final activity.

TEACHER SAY:
You are ready to test your object.
Set up your ramps and string and complete your three tests.

 **READ ALOUD: Record your results.**

 **STUDENTS DO:** Complete three tests of their object measuring distance traveled and record results.

TEACHER DO: Circulate around the room assisting students and listening to their conversations in order to correct any misconceptions. If needed, facilitate a whole group conversation about how to compare and record the results of the three tests.

To extend student learning, prompt students with the following questions:

- How does the height of the ramp affect your object rolling down?
- If you want your object to go a shorter distance, what would you do?
- Do you think the surface of your ramp affects how your object rolls down it?

Use a **Visual Countdown** strategy to regain student attention by holding up 3 fingers and saying loudly, "three," then hold up 2 fingers and say, "two." By the time you get to one, the students should be quiet and looking at you.

TEACHER SAY:
Three, Two, One (holding fingers up as you count).
Thank you for giving me your attention so quickly.
You have worked very hard today.
Please return your materials and tidy up your area.

 **STUDENTS DO:** Students return materials and tidy up their area.

Note to Teacher: The strings from the experiment should be saved in a plastic bag or envelope labeled with a group name or number for easy distribution in the next lesson.

TEACHER SAY:
Raise your hand if your object stopped at different places each time.

Why do you think that happened?
Turn to a Shoulder Partner and share your ideas.

 **STUDENTS DO:** Share their answer with a **Shoulder Partner**.

3. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY:
What problems would exist if we did not have ramps?
Think to yourself for one minute. When I say "pair up," turn to pair up with a friend. Share what you think.

TEACHER DO: Use a **Pair/Share** strategy to encourage student discussion.

 **STUDENTS DO:** Think to themselves first, then share with a friend.

TEACHER SAY:
Tomorrow you will have the opportunity to share your objects and tests with the class.

Lesson 10 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Share objects created. • Describe how the object was created. • Share test results.	• Inner • Outer • Clockwise	• **Bell** • Student book

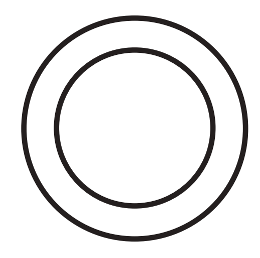


Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY:
Scientists like to share the results of their experiments.
Today, you will act like scientists and share what you did and what you learned.



2. TEACHER DO: Use a **Carousel Strategy**. Divide the class into two equal groups. (If you have unequal number of students, put more students in the outer circle than the inner circle.) Clear a large area in the room so students can stand in a large circle. Group A will carry their object and stand in a circle. Group B will surround group A as an outer circle. Students on the outer circle pair up with a student on the inner circle. The student on the inner circle will describe how they made their object. The student on the outer circle will listen and ask questions. After everyone has gone around the circle one time, have Group A put their objects away and Group B gets their object and now becomes the inner circle.

Note to Teacher: As an alternative to using the carousel strategy, you may choose to have students ***Pair/ Share*** *in their row groups.*

TEACHER SAY:
As I divide the class, I want the first students I call to pick up the object they created and stand in a circle.

TEACHER DO: Call the names of half the class or slightly less.

 **STUDENTS DO:** Pick up the object they created and tested, and stand in a circle.

TEACHER SAY: Next, the rest of you will stand in a bigger circle around the other students. Then turn to face a partner in the inner circle.
When I say "Go," the students in the inside circle holding their object will describe how they made it. Ready? Go.

 **STUDENTS DO:** Describe how they made the object they tested.

TEACHER SAY: Now, the students standing in the outside circle can ask a question about how the object was made or why a material was chosen. You can also ask how well or how far the object rolled.

 **STUDENTS DO:** Ask questions.

TEACHER SAY: Great job. When I Ring the Bell, the inner circle is going to freeze. No one in the inner circle should move.

The outer circle will move to your right one person (model the direction for students). Students on the outside: can everyone raise their right hand? Great. That's the direction you are going to move.

TEACHER DO: Ring the Bell to signal for students in the outside circle to move right one space.

 **STUDENTS DO:** Follow teacher directions to share using the carousel strategy.

3. TEACHER DO: Ring the Bell and cue the outer circle to rotate one space one more time so that students practice sharing three times. Allow approximately one minute for each rotation.

TEACHER SAY:
Excellent, now the inner circle, please return your objects.
Outer circle, please pick up your object and go stand in a circle inside the inner circle.
Inner circle, please move out to stand in a circle around the other students.
Our NEW inner circle, please describe how you made your object to your new partner in the outer circle.
Outer circle, you may ask them questions.
Remember the outer circle moves one person to their right each time I Ring the Bell.

 **STUDENTS DO:** Share, switch places and complete rounds two and three.

TEACHER SAY:
I'm so glad you each had the chance to share your important work.

4. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY:
This was a fun chapter.
We learned a lot about how the world works.
We explored how things move in our world.
We looked at tools we use.
We saw how things are put together from different materials.
We experimented with how we can make objects that roll.
Finally, we learned how ramps work and why they are important.
Turn to your Shoulder Partner and tell them which activity was your favorite and why.

 **STUDENTS DO:** Share with a partner.

TEACHER SAY:
I hope you continue to look around when you are at school, at home and in the community for ramps.
Maybe one day, you will design a better ramp for people to use.

KINDERGARTEN I

Multidisciplinary

HOW THE WORLD WORKS

Chapter 2: Shade For A Beetle

Theme Overview

Shade For A Beetle

COMPONENT	DESCRIPTION	LESSONS
Discover	Students review prior learning about the sun, describe properties of the sun, and discover its effect on different surfaces. Students also discover how people respond to sunny days including goods they purchase to protect themselves from the sun.	4
Learn	Students learn about shade and how various objects create shade. Students learn the design process used to create original shade structures. Students also identify the importance and adaptations of plants and how to care for them.	4
Share	Students collaborate to create a shade structure then present and test the structures they created.	2

Connection to Issues



Environmental: Our earth and environment need to be sustained. We can appreciate the environment as a community.

Globalization: Technology helps us and has changed over time. We have a special culture in Egypt around water.

Shade For A Beetle

DIMENSION	DESCRIPTION
Learn to Know	**Critical Thinking:** • Differentiate between similarities and differences. **Creativity:** • Flexibility in generating a diversity of ideas that are not typically expected and be able to readjust when the situation changes. • Originality in generating new and unique ideas. **Problem Solving:** • Identify the problem.
Learn to Do	**Collaboration:** • Abide by common rules of the team. **Negotiation:** • Good Listening.
Learn to Live Together	**Respect for diversity:** • Respect the opinions of others. **Empathy:** • Help others. **Sharing:** • Awareness of Roles
Learn to Be	**Self-management:** • Set clear goals. **Communication:** • Self-expression.

Learning Indicators

Throughout this chapter, students will work toward the following learning indicators:

READING:

Foundational Skills: Print Concepts

- Recognize that spoken words are represented in written language that follows rules.

Reading Comprehension: Literature

- Ask about key details with prompting and support.
- Use illustrations in a story to describe characters, setting, or events with modeling and support.
- Identify characters, setting and major events in a story with modeling and support.
- Actively engage in group reading activities with purpose and understanding.
- With prompting and support, read and comprehend literature of appropriate complexity for KG1.

Language: Vocabulary Acquisition and Use

- Understand and use question words.
- Use words and phrases acquired through conversation, reading, and being read to.

WRITING:

Narrative

- Use drawing, dictating, and writing to narrate events and a reaction to what happened.
- Recall information from experiences.

Process, Production, and Research

- Orally produce complete sentences in shared language activities.
- Add drawings or visual displays to descriptions to provide additional details.

SPEAKING AND LISTENING:

Foundational Skills

- Use appropriate vocabulary, gestures, facial expressions, and body language for the situation.
- Participate in collaborative conversations with diverse partners about topics and texts with peers and adults.
- Describe people, places, things, and events with relevant details and provide additional detail with prompting and support.
- Express thoughts, feelings, and ideas clearly.

Fluency

- Orally produce complete sentences when appropriate to task and situation.

MATH:

Geometry

- Describe objects in the environment using names of shapes.
- Correctly name 2-D shapes.

Measurement

- Collect and classify data using objects and drawings (up to ten).

SCIENCES:

Skills and Processes

- Design and make things with simple tools and a variety of materials.
- Identify parts of things and how one part connects to another.
- Raise questions about the world around them.
- Seek answers to some of their questions by making careful observations, using 5 senses, and trying things out.

Earth and Space

- Describe the sun as the main source of heat.

Life Sciences

- Compare and explain how external features of plants and animals help them survive in different environments.

Environmental Science

- Identify the importance of plants and animals to humans and how to care for those things (through basic needs).

Engineering Design and Process

- Develop an understanding of engineering design.
- Develop an understanding of the role of troubleshooting, research and development, invention, and experimentation in problem solving.
- Develop the abilities to apply the design process.
- Develop the abilities to assess the impact of products and systems.

SOCIAL STUDIES:

Economics and History

- Explain the difference between something you want and something you need.
- Identify different types of goods.

ART:

Drawing and Coloring

- Use simple art materials to create a scene from the surrounding environment.

Sculpting

- Create shapes using a variety of sculpting materials.
- Create artwork from own imagination.

Applied Arts and Handicrafts

- Decorate the classroom with artworks they create.

DRAMA:

Puppetry

- Use the puppet to help a friend solve a theme related problem.

EDUCATIONAL MEDIA:

Radio Broadcasting

- Dictate to the teacher a broadcast about the weather and include a picture to represent the weather conditions.
- Cooperate with classmates in selecting items to include in a broadcast.

ECONOMICS AND APPLIED SCIENCE:

Managing Individual and Family Resources and Rationing Consumption

- Participate in decorating the surrounding environment using materials available.

LIBRARY:

Types of Media in the Library

- View digital resources related to the theme.

VOCATIONAL FIELDS:

Industrial Jobs

- Participate in decorating the surrounding environment using materials available in the home, classroom, and school.

Commercial Jobs

- Identify the names of goods being sold or purchased in the environment.

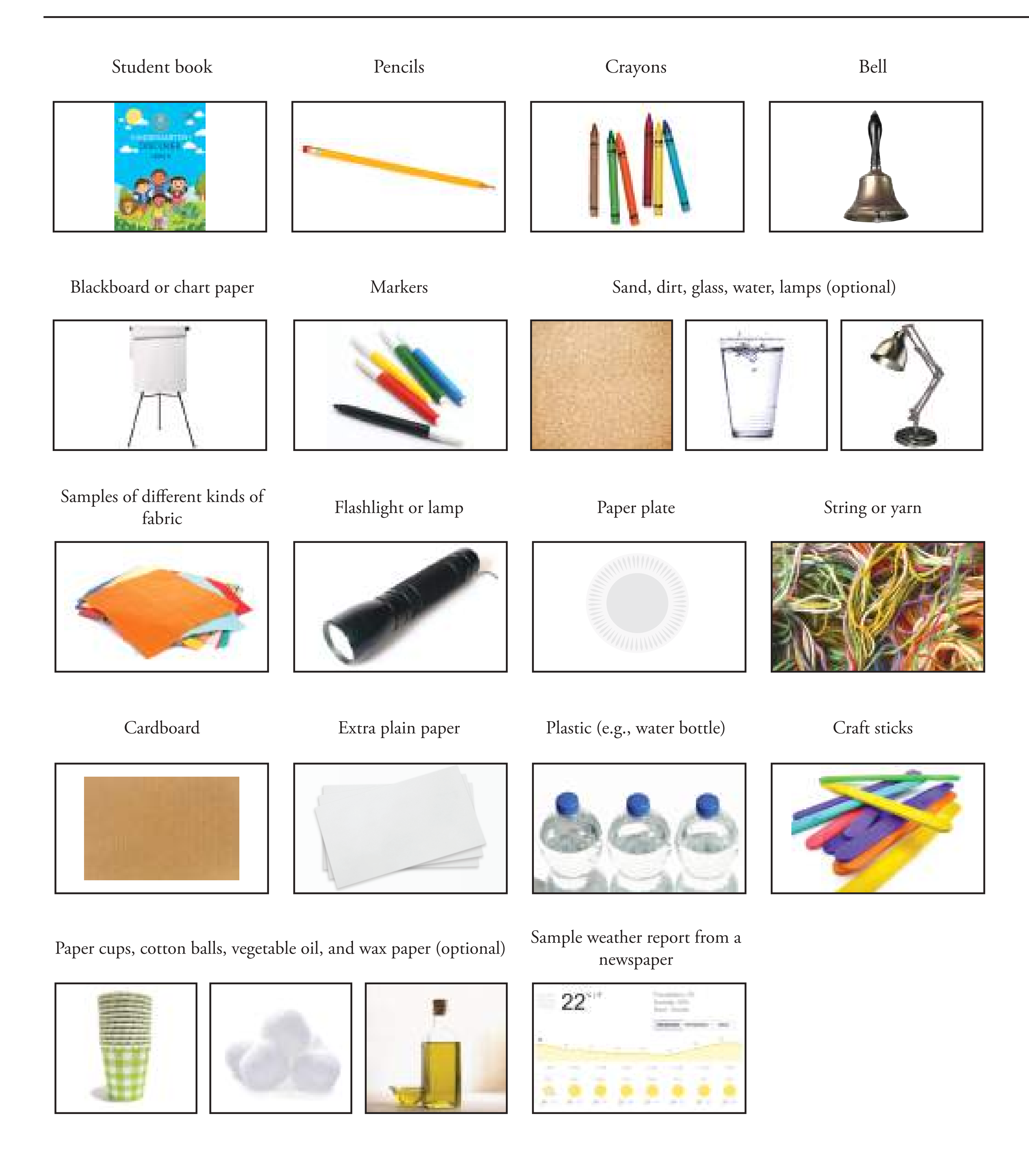
INFORMATION AND COMMUNICATION TECHNOLOGIES:

- Identify a personal information need.
- Create and refine questions to meet an information need.
- Use digital sources to find information.
- Use digital technologies (i.e., computer) appropriately to support learning.

CH 2 Pacing Guide

LESSON	INSTRUCTIONAL FOCUS
1	DISCOVER: **Students will:** • Review prior knowledge about the sun. • Closely observe depictions of the sun. • Describe properties of the sun.
2	DISCOVER: **Students will:** • Observe the sun's heat using the sense of touch. • Compare the sun's heat as observed on various surfaces.
3	DISCOVER: **Students will:** • Create a weather report for a sunny day. • Describe effect of a sunny day on people. • Discover what people do and wear on a sunny day.
4	DISCOVER: **Students will:** • Identify goods people buy to protect themselves from the sun. • Analyze ways people protect themselves from the sun. • Compare sizes of circles and apply to how much shade a hat produces. • Make predictions. • Count up to 5 objects. • Compare the size of objects using the words bigger and smaller. • Arrange objects in order according to size.
5	LEARN: **Students will:** • Engage in the engineering design process. • Collaborate to design a sun hat to protect a person from the sun.
6	LEARN: **Students will:** • Identify external features of plants and animals. • Explain how external features help plants and animals survive in different environments. • Count up to 5 objects.
7	LEARN: **Students will:** • Identify the importance of plants and animals to humans and how to care for those things (through basic needs).
8	LEARN: **Students will:** • Plan a design for a shade structure for a beetle. • Analyze material choices.
9	SHARE: **Students will:** • Collaborate to create a shade structure to protect a beetle.
10	SHARE: **Students will:** • Test and present the shade structure’s ability to create shade for a beetle.

Materials Used



Lesson 1 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Review prior knowledge about the sun. • Closely observe depictions of the sun. • Describe properties of the sun.	• Sun • Heat	• **Know-Wonder-Learn Chart** • Student books • Pencil and crayons • Pictures of the sun (printed or digital)

PREPARATION

Find various pictures of the sun that are large enough to hang around the room, or digital images if you can project them for students. Include scenes where the sun is visible at different times of day as well as pictures of the sun itself taken by telescopes.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: Today we are starting our next chapter in How The World Works. This chapter is called "Shade for a Beetle." In this chapter, we will be designing a structure that can provide shade for beetle. That sounds silly. Why would a beetle need shade?

TEACHER DO: Use **Calling Sticks** to choose three students to answer the question before continuing.

 **STUDENTS DO:** Offer ideas when called on.

2. TEACHER DO: Read the first part of the beetle story to students. Over the next 10 days you will be reading parts of the beetle story to help engage students with the activities in this chapter.

TEACHER SAY: I want to tell you a story about a little beetle. Today, I will read the beginning of the story. Every day I will read a little bit more.

"The Little Beetle"

Once upon a time a little beetle left his big city home. The busy streets with fast cars were not safe. The sidewalks with many people walking were also not safe. The little beetle did not want to be squished. He decided to find a nice, wide open space to live. So he started walking.

After a long walk he arrived in the desert. He looked around. He did not see cars. He did not see people's feet. He felt safe. He looked up at the sky and saw a big round, yellow and orange circle. What did he see?

Whisper your answer into your hand. On the count of three. One–Two–Three.

 **STUDENTS DO: Whisper** the word SUN into their hands.

TEACHER SAY: YES. The beetle saw the sun up in the sky. We have learned about the sun before.Turn and share with a Shoulder Partner what you remember about the sun.

 **STUDENTS DO:** Share with a **Shoulder Partner** some facts about the sun.

3. TEACHER DO: Listen as students share, making note of what they remember and any misconceptions they have. Before bringing students back together hang up a **Know-Wonder-Learn Chart** on the wall. This is a three column chart. In one section you will record what students know about the sun. In the middle section you will record questions students have about the sun. Later in the chapter you will add to the learn section.

TEACHER SAY: Thank you for sharing. We have observed the sun in our sky before. Now we are going to spend a few days exploring the job of the sun. We will discover how the sun can affect our world. We will discover how the sun can affect the environment for the little beetle. To help us keep track of what we know and what we learn we will make a Know-Wonder-Learn Chart. We start by making a list of everything we already know about the sun. I will use Calling Sticks to choose students to share what they know.

TEACHER DO: Use **Calling Sticks** to have students share what they know about the sun. Record what students say in the KNOW column of the **Know-Wonder-Learn Chart**.

 **STUDENTS DO:** Share a fact about the sun when called on.

TEACHER SAY: I wonder. What do we want to learn about the sun? Asking questions can help us learn. We can ask questions about the sun. A question starts with a word such as "what," "where," "when," "why," and "how." Here is a question I have: Why does the sun look orange or yellow? I will write that question on our chart in the WONDER section. I want you to have time to think about questions before we write them on the chart. We will play Shake It Share It High Five. We will share a question we have about the sun with a partner and we will listen to a question the partner has. Let's take a minute to think about a question we have. I will give you Think Time. When you have a question about the sun give me a Thumbs Up.

 **STUDENTS DO:** Think of a question related to the sun and then signal using a **Thumbs Up**.

TEACHER DO: Provide students with **Think Time** to generate a question. Continue the conversation when you see a majority of the class showing **Thumbs Up**.

TEACHER SAY: Okay, we are ready to share. Everyone stand up in place and listen to my instructions. When I say go, walk around the room. When I say stop, find a friend close by and share your questions. When you are done, give your friend a high five. Don't forget to thank your friend when you high five.

TEACHER DO: Engage students with **Shake It Share It High Five**. Allow students to share questions with three or four students before bringing the class back together.

 **STUDENTS DO: Shake It Share It High Five** with other students to share questions about the sun.

TEACHER DO: Bring students back to seats.

4. TEACHER SAY: I heard many great questions. I want to record your questions. Who can raise a hand to share a question?

 **STUDENTS DO:** Raise hands to share a question about the sun.

TEACHER DO: Call on student volunteers to share questions related to the sun. Make sure students are asking questions and not making statements about the sun. Record questions in the WONDER column of the **Know-Wonder-Learn Chart**.

TEACHER SAY: Thank you for helping to start our Know-Wonder-Learn Chart.
Now we are ready to learn more about the sun. We will add what we learn in this chapter to the LEARN section of our chart.

TEACHER DO: Hang up images of the sun around the room. Or, if possible, find images online to share with students. Show the sun at various times of the day (such as sunrise, sunset, hidden behind clouds). Hang a large piece of paper on the board to create a **Word Web** for the word SUN.

5. TEACHER SAY: The sun can look different at different times of the day. Let's look closely at the pictures of the sun, and think about how we would describe it. We observe with our eyes. When I say "observe," stand up quietly and walk around the room to look closely at the pictures. Think about the shapes that you see. Think about the colors you can see. Are you ready? Observe.

Note to Teacher: If it does not work for you to allow students to move around the room freely, you can set the pictures up in **Four Corners***. Or, you can choose to put a variety of images at table groups for students to observe in their seats.*

 **STUDENTS DO:** Observe the various images of the sun and think of words to describe what they can see.

TEACHER DO: Use the **Countdown Strategy** or the bell to bring students back together.

TEACHER SAY: Thank you for taking time to discover how to describe the sun. Let's describe what we saw. I will write down the words you use on a Word Web. In the middle I will write the word sun. Here is an example: We already know the sun feels hot so I will draw a line from the word sun and at the end write the word hot. Can you help me add more words to describe the sun?

TEACHER DO: Use **Calling Sticks** to call on five or six students to share words to describe the sun. Words might include: yellow, red, orange, bright, colorful, big, round, moves, circle. Write the words on the **Word Web**. Read the word aloud as you write it. If possible, provide visual cues for the words as you write (for example, write the word RED using red marker, write the word BIG in extra-large print, draw a circle next to the word CIRCLE).

 **STUDENTS DO:** Respond when called on with a word to describe the sun.

TEACHER DO: After listing all words on the chart, pass out student books and art supplies. These supplies can include colorful construction paper and glue, crayons and markers.

Note to Teacher: If available, you can also use paints, tissue paper, and other art supplies.


THE SUN

Using art materials, create a detailed picture of the sun. Complete the sentence below.

The sun is

21

6. TEACHER SAY: Great job listing words to describe the sun. Now each of you will get a chance to create a picture of the sun that we can use to decorate our classroom during this chapter. Open your books to the page that looks like this, The Sun.

TEACHER DO: Hold up a student book open to the correct page.

 **READ ALOUD: Using art materials, create a detailed picture of the sun. Complete the sentence below.**

TEACHER SAY: Think about the pictures you observed of the sun today. Think about how we described the sun. Do you think we should make the sun shaped like a square? Do you think we should make the sun blue and purple?

 **STUDENTS DO:** Respond no to the teacher's questions.

TEACHER SAY: When we are finished we can hang up the pictures in the room. The pictures will help us remember the focus of our chapter – the sun.

 **STUDENTS DO:** Create an accurate picture of the sun using provided materials.

TEACHER DO: Observe students as they create images of the sun. Provide assistance where needed to use the various art materials.

TEACHER SAY: I love seeing all the suns we can hang in our room. Before we finish, I want us to practice writing about our sun. Look at our Word Web again.

I will read all the words we wrote to describe the sun.

TEACHER DO: Reread the words on the word web, pointing to each word as you read. As student literacy levels allow, invite students to come help point to words as you read or read aloud the familiar words with you.

TEACHER SAY: **At the bottom of your page it says, "The sun is ______." You will choose one word we wrote together and copy it on the line. Then we can practice reading our sentence to a Shoulder Partner. Everyone think of one word you can write to finish the sentence. When you know which word you will write show me a Thumbs Up.**



STUDENTS DO: Think of one word to write in their book and show a **Thumbs Up** when ready.

Note to Teacher: Depending on students' literacy levels, you can limit student choices to two words or pick one word as a class that every student will write together.

TEACHER DO: As you watch for students to give a **Thumbs Up**, reread the words on the web again to provide reinforcement.

TEACHER SAY: **Great. Everyone has a word in their head. Let's copy the word onto the line.**



STUDENTS DO: Write one word to describe the sun.

TEACHER DO: Watch as students write. Provide assistance where needed. As you move around, point to each word and read the sentence that students are writing. If a student finishes writing, have him or her practice pointing and reading the sentence as well.

TEACHER SAY: **We worked hard thinking about what we already know about the sun. We also worked hard discovering words to describe the sun. Let's share our sentences. First, let's practice the sentence starter one time together. Repeat after me: "The sun is…"**



STUDENTS DO: Repeat the sentence starter in unison.

7. TEACHER SAY: **Great. Now, turn to a Shoulder Partner to share your sentence about the sun. Repeat the sentence starter and finish the sentence with the word you wrote on the line.**



STUDENTS DO: Share their sentence about the sun with a **Shoulder Partner**.

TEACHER SAY: **Make sure you thank your Shoulder Partner. I will hang our suns around the room.**

8. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: **At the end of our lesson every day, we share what we learned. Let's review one new idea we learned today. I want you to help me. I will invite a friend to come up to the front of the room. You will call on three other students to share one new idea they learned. Can __________ come up today? Can you please call on three other students to share a new idea? You will ask "What is something new you learned?" Everyone, let's all practice that question. "What is something new you learned?"**



STUDENTS DO: Repeat the question with the teacher.

TEACHER DO: Choose a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.



STUDENTS DO: Share a new idea learned during the lesson.

Lesson 2 Overview

LEARNING OUTCOMES	KEY VOCABULARY		MATERIALS
Students will: • Observe the sun's heat using the sense of touch. • Compare the sun's heat as observed on various surfaces.	• Heat • Surface • Material • Ground	• Hot • Warm • Cool • Temperature	• Student book • Optional: sand, dirt, grass, water, lamps (several) • Chart Paper

PREPARATION

Today students will be going outside to observe the sun's heat. If the day is not sunny or you are unable to take your class outside, consider two alternatives: 1) You can set up an investigation in the classroom. To do so you will need: a bowl of sand, a bowl of dirt, grass, a hard surface (to mimic a sidewalk), and a bowl of water. You will also need several desk lamps to put over each surface to imitate the sun. Shine a lamp over each surface for at least an hour leading up to the activity. 2) If these materials are not available, place a variety of objects in a sunny spot near a window in the classroom about an hour before the lesson.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: **Let's start by remembering what we learned about the beetle yesterday. Do you recall the story I began to tell you? Where did our little beetle start yesterday?**

 STUDENTS DO: Identify the city as the place the beetle began.

TEACHER SAY: **Where did the little beetle go after he left the city?**

 STUDENTS DO: Identify the desert.

Note to Teacher: At this age, students are expected to associate the sun with warmth and heat. The story that follows and the investigation in this lesson ask students to observe the sun's warmth. While the investigation using different materials may seem advanced for students of this age, emphasize the use of senses to make observations. Feel free to modify the investigation as appropriate for your class.

TEACHER SAY: **Great. Let's see what happens next. I will keep telling you the story.**

The little beetle saw the sun shining brightly in the sky. The little beetle felt the sun's warmth on his body.The sun made him feel very hot. His little feet were standing on the sand. The sand started to feel very hot. He quickly looked around for another surface to stand on. He looked for grass. He looked for dirt.

He looked for a sidewalk. He didn't see grass, dirt, or a sidewalk nearby. Where he could stand that would not feel as hot as the sand?

Let's think about the beetle's problem. Where can the beetle go?

 STUDENTS DO: Raise hands to volunteer ideas.

TEACHER DO: Call on student volunteers.

2. TEACHER SAY: The sun is hot. It heats up the different parts of our world. What part of the world was too hot for the beetle in the story?

 **STUDENTS DO:** Offer ideas, identify the sand.

TEACHER SAY: That's right. The sand, or the ground, was too hot for the beetle. Why was the sand hot?

 **STUDENTS DO:** Offer ideas, identify that the sun was shining on it.

TEACHER SAY:The sun heats up the ground. The little beetle did not like how hot the sand felt. He wonders if everything on the ground gets as hot as the sand. What are some other materials we can see on the ground?

 **STUDENTS DO:** Volunteer responses for materials that are on the ground.

TEACHER DO: Call on student volunteers to answer the question. You can prompt students to think about what they see on the ground when they go outside. Create a list on chart paper to keep track of surfaces students name. You can add to the list if students do not mention a common material.

Note to Teacher: To extend this conversation, sort the surfaces on the list into natural and human-made surfaces.

TEACHER SAY: Water, grass, dirt, and sand can cover the ground. People have also built roads and sidewalks that cover the ground too. The sun heats up everything. What else feels hot from the sun outside?

 **STUDENTS DO:** Think of surfaces they can touch outside.

TEACHER SAY: The sun heats up natural surfaces and human made surfaces.
When you play outside on a playground on a sunny day, sometimes the equipment can feel hot. Do you like when a slide feels hot?

 **STUDENTS DO:** Respond with "yes" or "no" to the teacher's question.

TEACHER SAY: Sometimes we like when the sun makes things feel warm.
I love when I wrap a warm towel around me after playing in the water. I do not like when I slide on a hot slide. It can hurt. Can you think of a time you touched something outside and it felt hot? Turn to a Shoulder Partner and tell them what you remember.

 **STUDENTS DO:** Share times when they touched something hot outside with a **Shoulder Partner**.

TEACHER DO: Use **Calling Sticks** to have students to identify experiences they have with touching a hot surface. Be sure to differentiate between hot surfaces outdoors (affected by the sun) and hot surfaces indoors, like stoves, irons, etc. The focus should be on the sun's heat outdoors.

 **STUDENTS DO:** When called, share times when they touched something hot outside with the class.

3. TEACHER SAY: The sun makes outdoor surfaces feel hot. I wonder if the sun makes all surfaces feel equally hot. Let's observe how the sun can make different surfaces feel. We will go outside. We will use our hands to softly touch a surface to see if it feels hot, warm, or cold. Listen for my direction as I invite you to feel how the sun warms each surface.

TEACHER DO: Line students up to go outside. Once you get outside, select a location, such as a playground, with a variety of surfaces (grass, sand/dirt, sidewalk) for students to touch and observe the impact of the sun. The surfaces should be in direct sunlight. You can have students sit in a central location and invite groups of students up to touch a surface. Prompt students with questions such as "How does the surface feel in the sun?" "Which surfaces feels hotter?" Once each student has had

an opportunity to observe the sun's warmth on the various surfaces bring the class back into the classroom.

Note to Teacher: If you do not take students outside, you can set up the same observation in the classroom and have students take turns touching the "surfaces" you have collected in bowls that have been under a light or set up by the window in the sunlight. Remove the lamp before inviting students up to touch the surfaces. If you cannot bring in samples of sand, dirt, and grass, place a variety of objects (a book, something metal, something plastic) near the window in a sunny spot for students to feel.

4. TEACHER DO: Bring students back into the classroom and hang up a chart with three circles labeled "Cool, Warm, Hot." You will help students sort the surfaces by how they felt.

TEACHER SAY: We just discovered that the sun can warm surfaces in our world. I want us to put those surfaces into three groups: COOL-WARM-HOT. Did all of the surfaces feel exactly the same?

 **STUDENTS DO:** Respond, likely with "no."

**TEACHER SAY: The sun did not warm the surfaces all in the same way.
Which surfaces did we touch that felt cool?**

 **STUDENTS DO:** Respond from memory of the observations.

TEACHER DO: Record the surfaces mentioned in the COOL circle. Repeat the process of asking and recording for which surfaces felt WARM and HOT.

 **STUDENTS DO:** Respond from memory of the observations.

TEACHER DO: Ask follow up questions and facilitate discussion as needed to compare the temperatures of the surfaces. Some surfaces might feel close in temperature, or students may disagree on which category is most accurate. Come to a general consensus as a class and list the surfaces in the three parts of your chart, Cool, Warm, Hot.

TEACHER SAY: I wonder, why do you think different surfaces were different temperatures?

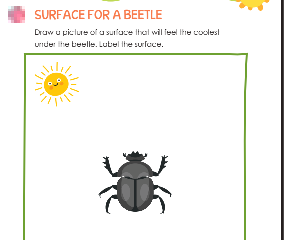
TEACHER DO: Provide **Wait Time** for students to think reasons there were temperature differences.

TEACHER SAY: Who would like to share what they are thinking?

TEACHER DO: Call on student volunteers to share ideas. The question is open ended and students are not expected to know the correct answer at this level. Allow all answers. If students are having difficulty, you can compare the color of surfaces and the material the surfaces are made out of to allow students to draw comparisons.

 **STUDENTS DO:** Volunteer to share ideas about why surfaces might feel different.

TEACHER SAY: Remember at the beginning of our lesson today, the little beetle wanted to find a surface that felt the coolest. Think about what we discovered today. Who can give the beetle a suggestion on where he can stand?



TEACHER DO: Use **Calling Sticks** to allow students to share possible surfaces. Ask students to tell you why they made that choice.

STUDENTS DO: Provide ideas for surfaces the beetle can stand on.

TEACHER DO: Pass out student books and have students open to the page called Surface For A Beetle.

TEACHER SAY: Everyone open your books to the page that looks like this called Surface For A Beetle. Point to our beetle friend on the page.

READ ALOUD: Draw a picture of a surface that will feel the coolest under the beetle. Label the surface.

TEACHER SAY: After you draw the surface you can try to write a word to name the surface too. You can use the words on our chart.



STUDENT DO: Draw a surface from the COOL section of the chart under the beetle. Use the words on the chart to label the surface.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: We worked hard beginning to explore the effect of the sun today. Can _________ please come lead our closing today? Remember, you will ask the class "What is something new you learned?" Then you will call on three friends.

TEACHER DO: Choose a student to lead the closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.



STUDENTS DO: Share a new idea learned from today's lessons.

Lesson 3 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Create a weather report for a sunny day. • Describe effect of a sunny day on people. • Discover what people do and wear on a sunny day.	• Weather report	• **Bell** • Samples of weather reports from a newspaper • Video samples of a weather report • Large chart paper • Student books • Pencils • Crayons



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: **We have discovered that the sun warms the world around us. Turn to a Shoulder Partner and share one way the sun warms our world every day.**

 STUDENTS DO: Share about the sun with a **Shoulder Partner**.

TEACHER SAY: **We learned that the sun heats up the ground. The sun can affect people too. Today we will discover how the sun affects people in our world. We will also create a weather report so people will know when the weather will be sunny.**



2. TEACHER DO: Pass out student books. Show students the page called On A Sunny Day.

TEACHER SAY: **Before we start I want to know what you do on a sunny day. Look at this page called On A Sunny Day. What do you see at the top of the page?**

 STUDENTS DO: Identify the sun in the picture.

TEACHER SAY: **Yes, we can see the sun in the sky. That means the weather is sunny.**

 READ ALOUD: **Circle the pictures that show children on a sunny day.**

TEACHER SAY: **So, we need to find all the pictures that show things we do on a sunny day. Let's identify each picture together. Who can describe what they see in one of the pictures?**

 STUDENTS DO: Volunteer to describe a picture on the page.

TEACHER SAY: **Everyone point to that picture. Think to yourself, "Does this picture show children on a sunny day?"**

 STUDENTS DO: Point to the picture being described and consider the question.

TEACHER DO: Have students continue identifying the pictures together as a class until each picture has been described. Ask students to consider whether a picture shows sunny day activities, but don't have them answer out loud.

TEACHER SAY: **Now I will give you time to circle the pictures that show children on a sunny day. After we circle we will share.**

 STUDENTS DO: Circle the pictures that show children on a sunny day.

TEACHER DO: Monitor students as they circle their choices. Use a **Bell** to bring students back together.

3. TEACHER SAY: **Thank you for thinking about what was happening in each picture. Let's share how we knew a picture showed children on a sunny day. I will describe a picture and point to it. Show me a Thumbs Up if the picture shows children on a sunny day.**

TEACHER DO: Go through each picture on the student book page and have students show a **Thumbs Up** if the picture illustrates a sunny day activity. Extend learning by asking students to support their answers with details from the pictures. Answers could reference clothing, accessories, or the activity depicted.

TEACHER SAY: **We can do a lot of things on a sunny day that we cannot do when it is rainy. We can also do things on a rainy day that we cannot do when it is sunny. Who likes sunny days better? Raise your hand.**

 STUDENTS DO: Raise hands to indicate they like sunny days better than rainy days.

TEACHER SAY: **Who likes rainy days? Raise your hand.**

 STUDENTS DO: Raise hands to indicate they like rainy days.

TEACHER SAY: **Who can share why they like sunny or rainy days? Is there something you can do or wear that you like?**

 STUDENTS DO: Volunteer to share why they prefer a type of weather.

TEACHER DO: Call on student volunteers to share why they prefer a type of weather.

TEACHER SAY: **On a sunny day, I wear clothes to help keep me cool. What would you wear on a sunny day? What would you not wear on a sunny day?**

TEACHER DO: Ask the two previous questions one at a time. Use **Calling Sticks** to have students share something they would and would not wear in sunny weather.

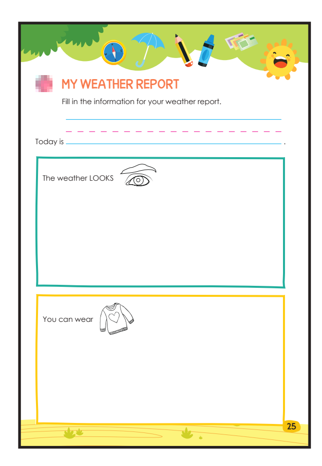
TEACHER SAY: **If it is going to be sunny, I do not need to wear a raincoat. If it is going to be hot and sunny, I do not need to wear a thick coat. If it is going to be sunny, I wear light clothing. I might also wear a hat. It is important to know the weather before we start our day. Does anyone know what we can use to help us know about the weather before the day starts?**

 STUDENTS DO: Volunteer if they know a way to learn about the weather.

4. TEACHER SAY: **People read or listen to weather reports so they know what weather to expect. Let's observe some weather reports.**

TEACHER DO: Share either print versions or video clips of a variety of weather reports. As you view these with students, identify how the report shares the day and type of weather to expect. Ask students to identify the type of weather being reported. To extend, ask students to compare what is similar and unique in the reports. Sometimes the report will tell people how to prepare for the weather, such as suggesting clothing, accessories, or activities appropriate for the weather. Direct students' attention in the reports to the use of images to help show the weather. When finished, pass out student books and crayons.

Note to Teacher: Consider setting up weather reports as a **Four Corners** *activity to facilitate movement for your students.*



5. TEACHER SAY: **You are going to create a morning weather report. Imagine that the weather for this day will be sunny. We want to help people in our community know what to expect. We will work in groups to create a weather report. First, we will start in our books on the page that looks like this, called My Weather Report.**

 READ ALOUD: **Fill in the information for your weather report.**

TEACHER SAY: **On your weather report you will tell people what day it is today. Who remembers what day it is today? Whisper the day to your Shoulder Partner.**

 STUDENTS DO: **Whisper** the day of the week to a **Shoulder Partner**.

TEACHER DO: Call on a student to share the day of the week with the class.

TEACHER SAY: **Correct. Today is ______ (state the day of the week). Finish the sentence in your student book.**

TEACHER DO: Write "Today is (the correct day)" on the board.

 STUDENTS DO: Write the day of the week on the line provided.

TEACHER SAY: **Next, draw a picture in the first box to show the type of weather. Who remembers what kind of weather we are reporting for our imaginary day?**

 STUDENTS DO: Answer, a sunny day. Draw a picture of sunny weather.

TEACHER SAY: **In the second box, draw a picture of something people can wear for the weather in your report.**

 STUDENTS DO: Draw a picture in the second box independently.

6. TEACHER SAY: **Now, we will share what we drew on our weather report page in small groups. We will use Talking Sticks to share our pictures. Make sure you tell your group what you think people can wear on a sunny day.**

TEACHER DO: Put students into small groups (two to four students depending on your class). Give each group a **Talking Stick** to facilitate sharing. If needed, review sentence starters for students such as, "Today is… The weather will be… You can wear…"

 STUDENTS DO: Take turns in a small group sharing their weather report page.

TEACHER SAY: **I heard some great weather reports. Now that you have shared in your group, let's practice how you will present your weather report to the class. In your groups you will stand up and present your weather report. You will share what day it is, the type of weather for the day, and what people can wear. I will share what my weather report can sound like.**

Hello. Today is _______ (state the day). The weather today will have a lot of sun. You can wear sandals and a short sleeve shirt.

Assign each person in your group one sentence to say.

TEACHER DO: Assist students in orally practicing their weather report. Each person in the group should have a turn to speak and provide information about the weather. If time allows, each group can also create a small poster as a visual aid for their weather report. Students can draw the weather and children doing an appropriate activity for sunny weather.

 STUDENTS DO: Work in groups to practice presenting a weather report.

7. TEACHER SAY: **Great job sharing your reports. We also saw that a weather report can have pictures to show information. In your student books you drew pictures on your own. Now I want you to work as a group to create one large picture to show what people can do in the sunny weather. First, talk in your group to share activities that can be done in sunny weather. Then you will work together to create a sunny weather picture to display in the room.**

TEACHER DO: Provide time for groups to determine an activity that can be done in sunny weather. As groups come to a decision, pass out a large piece of paper for each group and crayons. Student groups will collaborate to create a picture together to show what people can do on a sunny day.

 **STUDENTS DO:** Collaborate to create a picture to show an activity people can do on a sunny day.

8. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: You were all amazing weather reporters. I want everyone to try to look at or listen to a weather report when they go home today. Can _______ come lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a something new they learned today.

TEACHER SAY: Tomorrow, we are going to learn about something we can wear on our heads when it is sunny. Who can guess what we will be talking about?

 **STUDENTS DO:** Offer ideas.

Lesson 4 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Identify goods people buy to protect themselves from the sun. • Analyze ways people protect themselves from the sun. • Compare sizes of circles and apply to how much shade a hat produces. • Make predictions. • Count up to 5 objects. • Compare the size of objects using the words bigger and smaller. • Arrange objects in order according to size.	• Shade • Protect	• **Bell** • Images of hats used in the sun • Various sized circles cut from paper (number of circles should match the number of hat images) • Samples of different types of fabric • Images and tools of shade structures (such as umbrellas, awnings) • Large paper • Flashlight or lamp • Student book

PREPARATION

Have images of shade structures prepared to share with the class. Images can include: umbrellas, tents, trees, and other commonly seen structures that provide shade such as awnings on buildings, pavilions in a park, etc. Also have images of various hats prepared to hang (for example: baseball cap, large brimmed straw hat, winter hat). Images can be printed from the internet, cut from magazines or you may choose to use digital resources. You can also choose to bring in actual hats to create a more tactile experience for the students. You will need to prepare cut out circles to correspond to size of the brim for each of the images or actual hats. Place the hat on a paper and trace to create a circle that matches the size. For printed or digital images, create circles that vary to match the hat selections.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: We have been discovering a lot about the effect of the sun on our daily life. Who can share something they have learned so far about the sun? We can add to our LEARN part of the Know-Wonder-Learn Chart.



STUDENTS DO: Share new ideas learned about the sun.

TEACHER DO: Add new ideas learned about the sun to the LEARN part of the **Know-Wonder-Learn Chart**.

TEACHER SAY: Yesterday we presented weather reports for a sunny day. Weather reports can help us prepare for the day. Today we will think of ways we can help keep ourselves cool when the sun feels too hot. Let's find out what is happening with our little beetle friend.

The poor little beetle had nowhere to go to stay cool in the hot sun. All around him was hot sand. He could not find a cool surface. He decided to look for shade. If he could stand under something, it would help block the sun.
I wonder what the beetle can use to block the sun. Think to yourself, "What do you use to block the sun?"

TEACHER DO: Provide **Think Time**.

 **STUDENTS DO:** Think of ways they can block the sun.

2. TEACHER SAY: Imagine leaning up against a tree. It feels cooler under a tree, because you are in the shade. The tree is blocking the heat of sun. What else can we stand under to be in the shade? Turn to a Shoulder Partner to share your ideas.

 **STUDENTS DO:** Share ideas for shade with a **Shoulder Partner**.

Note to Teacher: If possible, take your students outside to experience the temperature change from a sunny space to shady space. You can also model the sun's heat using a lamp in the classroom. Have students feel the temperature under the lamp. Then, cover the light with a piece of paper and feel the temperature change under the light.

TEACHER DO: Use **Calling Sticks** to have students share ideas of where or how they can create shade. Have digital or printed images ready to share with students (such as an umbrella, tree, tent, awning, pavilion).

TEACHER SAY: I have pictures of things we can use to create shade. Let's identify what we see in each picture. What in this picture can create shade?

TEACHER DO: Show pictures one at a time and have students name the shade structure they see in each. If students don't know the name of a structure, provide it for them and have them repeat it. Students don't need to remember or formally learn each new word.

 **STUDENTS DO:** Identify shade structures in each picture.

TEACHER SAY: Some of these things you can buy. These are called GOODS. GOODS are things you can buy. When you are in the sun and you feel hot, you need a way to make shade. An umbrella can provide shade. Where can I buy an umbrella?

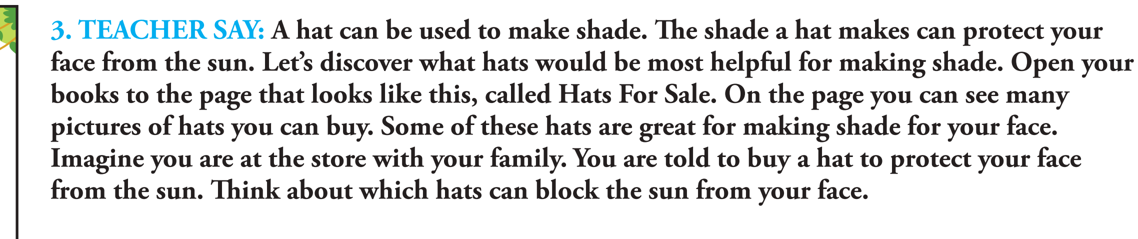
 **STUDENTS DO:** Identify a store that sells umbrellas.

TEACHER SAY: I have decided I want to take the shade with me around town. An umbrella would work. I wonder what else I can buy to help make shade. Do you have any ideas?

TEACHER DO: Provide **Think Time** for students to imagine goods that can be purchased to help make shade. Pass out student books and pencils. If someone mentions a hat, reference that student's answer in your transition to the next activity.

 **STUDENTS DO:** Offer ideas of portable objects that can create shade.





3. TEACHER SAY: A hat can be used to make shade. The shade a hat makes can protect your face from the sun. Let's discover what hats would be most helpful for making shade. Open your books to the page that looks like this, called Hats For Sale. On the page you can see many pictures of hats you can buy. Some of these hats are great for making shade for your face. Imagine you are at the store with your family. You are told to buy a hat to protect your face from the sun. Think about which hats can block the sun from your face.

TEACHER DO: Provide **Think Time** for students to think about the hats on the page.

 **READ ALOUD: Circle the hats that can help protect your face from the sun.**

 **STUDENTS DO:** Circle the hats that would create shade for their face.

TEACHER DO: As students work, move around the room and ask students to explain why they are circling specific hats. To extend, challenge students to choose (by drawing a box around) the hat that would be best for making shade.

TEACHER SAY: Great job thinking about the hats you could buy at the store. Who can share a hat they chose and tell the class why it would be a good hat to protect you from the sun?



STUDENTS DO: Volunteer to share a response.

TEACHER DO: Choose two or three student volunteers to share with the class.

4. TEACHER DO: Set up precut circles in the front of the room. Also, hang up images of hats, similar to the ones in the student book that students identified would provide protection from the sun. If you have a variety of actual hats, spend some time passing these around, allowing students to feel or even try on the hats. Vary the directions that follow to allow students to identify parts of the sample hats.

TEACHER SAY: Great job identifying hats that can provide shade from the sun. I have pictures of those hats here. Who can point to the part of the hat that is making shade? Remember shade means it is blocking the sun.

 **STUDENT DO:** Point to the part of the hat that is creating shade.

TEACHER DO: Call on student volunteers to come up to the front of the room and point to a part on the hat image. You can also have students identify the part on the hats in their student book.

TEACHER SAY: The part that sticks out from the hat is called the brim. What do you notice about the SIZE of brims on different hats? Do some hats have larger brims? Turn to a Shoulder Partner to quickly share what you notice.

 **STUDENTS DO:** Turn and share an idea with a **Shoulder Partner**.

TEACHER SAY: Let's put the hats in order using the brims, from the BIGGEST to the SMALLEST. Then, we can use those comparisons later to make shade predictions. Which hat has the SMALLEST brim?

TEACHER DO: Continue to lead students to sequence the hats using the brims, from smallest to biggest. You can hang these images at the front of the room. Be sure that students focus on the relative size of the brim, not the size of the hat.

 **STUDENTS DO:** Sequence the hats from smallest to biggest with the teacher.

5. TEACHER SAY: Great job comparing sizes. I now want us to test how much shade will be created by different sized hats. I have prepared different sized circles to represent different hats. We have ____ (number of hat pictures/samples you have) hats. I have the same number of circles. The circles are different sizes to match the sizes of the hats. Here is the smallest circle. Who can help me put the circles in order by size?

TEACHER DO: Call on students to continue sequence the circles from smallest to largest. Connect the different sized circles to the hats by placing the circles in front of or near each hat. Assist students as needed when they struggle to make a decision by putting one circle on top of another so they can choose the smaller of two.

 **STUDENTS DO:** Sequence the circles by size.

Note to Teacher: At this point in the lesson you have the choice to go outside and use the sun or use a lamp or flashlight in the classroom to mimic the sun.

TEACHER SAY: Now that we have put our circles in order, let's find out how much shade each one creates. I will use a flashlight to mimic the sun in the sky. First, we will hold up a circle. We will see how much shade the circle creates on the ground. Before we investigate, let's make predictions together.
I will point to each circle. If you think it will make the MOST shade, I want you to hold up five fingers. Let's hold up five fingers and count them together. One-Two-Three-Four-Five. Now if you think it will create the LEAST shade, I want you to only hold up one finger. If you think it is somewhere in between—not the most or least—don't hold up any fingers. I will mark the circle we think will make the most and least shade.

TEACHER DO: Point to each circle asking, "Will this make the most shade? Will it make the least shade? Show me one, five, or none?" Ask students to explain their votes. Note the circles for which the most students hold up five and one.

 **STUDENTS DO:** Hold up either one, five, or no fingers to indicate their predictions.

TEACHER SAY: Now that we are done predicting, let's test to see if our predictions were correct. I will invite students up to the front of the room to hold a circle. I will shine the flashlight over the circle. On the ground, we can trace the shaded area. Then we can compare.

TEACHER DO: Facilitate the testing of each circle. Hold the flashlight about one meter above the circle. On the ground, have a large piece of paper to trace the area of shade or use chalk to draw directly on the floor. You may also choose to draw in the dirt on the ground in your school yard. Have different students come up to hold a circle (try to have them hold each the same distance from the floor and the flashlight). Make sure you have the class sit or stand so that everyone can see the circle and the shaded areas. Invite a new student to trace each shaded area.

 **STUDENTS DO:** Follow the teacher's instructions for testing. Sit so that they can observe the circle being tested and the shade being created.

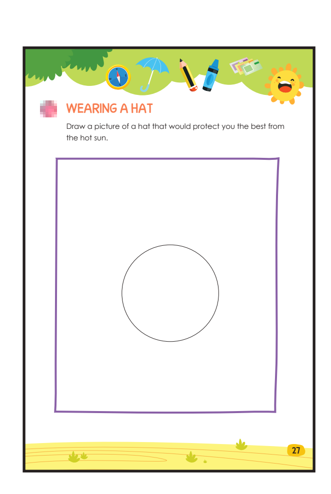
Note to Teacher: The following investigation is not meant to give precise results, rather it will allow students to observe and compare areas of shade in a tangible way. Modify the investigation as appropriate for your students.

6. TEACHER SAY: Now that we are done testing, we can tell if our predictions were correct. Which shade area is BIGGER? Which shade area is SMALLER?

 **STUDENTS DO:** Call out a response to the teacher's questions.

TEACHER SAY: Yes. This circle created the most shade. This circle was matched with this hat (point to the hat with the biggest brim). So which hat do you think would create the most shade if we were to put it on our head? Turn to a **Shoulder Partner** to share your idea.

 **STUDENTS DO:** Turn to a **Shoulder Partner** and share the hat they think would be best at making shade.



TEACHER DO: Hold up the student book page called Wearing A Hat.

TEACHER SAY: Imagine again that you are at the store and want to buy the best hat to wear in the sun. Imagine what that hat would look like.
On the page that looks like this, called Wearing A Hat you will get to show me what that hat would look like.

 **READ ALOUD: Draw a picture of a hat that would protect you the best from the hot sun.**

TEACHER SAY: After you draw your hat you can draw your face too.

 **STUDENTS DO:** Draw a design for a sun hat.

TEACHER DO: As students work, have them explain why they are drawing a hat in a certain way, listening if they are able to describe the importance of having a bigger area on the hat to make shade and block the sun.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Thank you for working hard to discover ways people make shade to protect themselves from the hot sun. Can ________ please come lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 5 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Engage in the engineering design process. • Collaborate to create a sun hat to protect a person from the sun.	• Engineering • Design • Materials • Plan	• Paper plate • Yarn/string • Fabric • Cardboard • Paper • Clear plastic (from a plastic water bottle) • Tape • Scissors • Flashlight or lamp • Student book



Learn (90 minutes)



Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: Who can share what we discovered about hats yesterday?



STUDENTS DO: Describe how bigger hats can create larger amounts of shade.

TEACHER SAY: Today we will get to work together to help our little beetle friend. Let's see what he is doing now.

The little beetle realized that there is not much shade in the desert. There was no tree to stand under. There was no store to buy an umbrella. He needed a hat to wear to protect himself from the sun. The little beetle had packed a bag before he left on his adventure. He decided to look inside. He did not find a hat.

But he did find a paper plate, yarn, paper, fabric, and a plastic water bottle. Hmmm.... he wonders, "How can I use these materials to help solve my problem? Can I use these materials to make a hat?"

2. TEACHER DO: Place the materials the story mentions on a table in front of the class.

TEACHER SAY: Wow. Our little beetle needs our help. He has a problem. He needs shade. We can work to find a SOLUTION to his problem. A SOLUTION is how you can fix a problem. We are going to follow steps to make sure we find the best solution. Who can share the problem we are trying to solve? Turn to a Shoulder Partner and quickly share the problem we are going to try to solve.



STUDENTS DO: Turn to a **Shoulder Partner** to share the beetle's problem.

TEACHER SAY: Great. Let's help the beetle by designing a solution. The first step is to come up with an IDEA.

TEACHER DO: On chart paper write the title DESIGN PROCESS. Then below that write the word IDEA and draw a light bulb as a symbol for the word IDEA.

TEACHER SAY: Our IDEA is to create a sun hat to provide shade for our beetle. We need to use these MATERIALS (point to the materials on the table) to make a sun hat for the beetle. The next step is to observe our MATERIALS.

TEACHER DO: Draw an arrow from the word IDEA and write the word MATERIALS. Draw a square and a circle next to the word materials as a symbol.

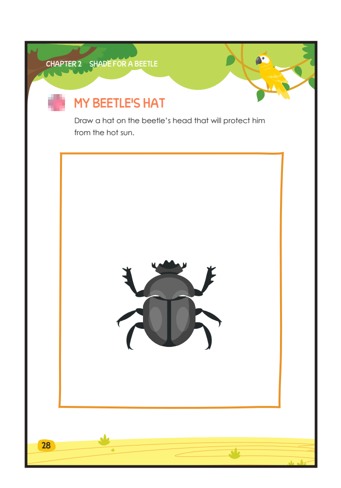
TEACHER SAY: We have many different materials. We learned about different materials in our last chapter. Who can come up to the front of the room and tell us one of the materials we have?

TEACHER DO: Call on students to come up and identify fabric, paper, and plastic.

 **STUDENTS DO:** Volunteer to identify materials displayed in the classroom.

3. TEACHER SAY: In our last chapter we practiced putting materials together to make something new. We are going to do that again, but this time we are putting the materials together to solve our problem. Let's review what we have so far. Our idea is to create a sun hat. Our materials are in front of us. We also already know a lot about hats. Yesterday, we discovered that hats with brims can create shade. We are ready now to PLAN a hat for the beetle.

TEACHER DO: Draw an arrow from the word MATERIALS and write the word PLAN. Draw a picture of a paper and pencil as a symbol for PLAN. Pass out student books and direct students to open to the page called My Beetle's Hat.



TEACHER SAY: Let's all open our books to the page that looks like this, called My Beetle's Hat. I see a picture of our friend the little beetle.

 **READ ALOUD: Draw a hat on the beetle's head that will protect him from the hot sun.**

TEACHER SAY: Remember, we only have these materials to use. This hat will not look exactly like the hat you drew yesterday, because it is made of different parts. I wonder how we can use these materials to help block the sun. I wonder how we will get the hat to stay on his head.

 **STUDENTS DO:** Draw a plan for the beetle's sun hat.

TEACHER DO: Move around the room as students are drawing. As you observe the plans, ask students to connect the materials you have with parts of their drawing. Make note of ideas that you think might work well for the class hat. You will ask those specific friends to share their ideas to help generate the class plan in the next part of the lesson. Provide students with around 10 minutes to complete their plans. Use a countdown to bring the class back together.

4. TEACHER SAY: We are going to finish the last part of our drawings now. I will count back from 10. When I get to 1 we need to put our pencils down. 10-9-8-7-6-5-4-3-2-1. Thank you for following my direction. Now, let's share our plans with a Shoulder Partner. As you share, make sure you tell your partner the materials you think we should use.

 **STUDENTS DO:** Share hat plans with a **Shoulder Partner**.

TEACHER DO: As students are sharing, hang up a large paper in the front of the room. You will be drawing a class plan for the hat based on your students' ideas.

TEACHER SAY: Thank your partner for sharing his or her ideas and turn back to the front of the room. Now let's make a plan together. I will call on some friends to share ideas. We will put our ideas together in a class plan before we start making our hat.

TEACHER DO: Call on specific students you made note of earlier to share ideas to draw on the page.

 **STUDENTS DO:** Respond when the teacher calls on students to share their hat ideas.

5. TEACHER SAY: We now have our IDEA and the MATERIALS we can use. We thought about what we had previously discovered about hats and shade. We made a PLAN with some of our very best ideas. We are almost ready for the last step which is to CREATE.

TEACHER DO: Point to each step as you say it. Then draw an arrow from the word PLAN and write the word CREATE. Draw a picture of three building blocks stacked in a pyramid to symbolize "create."

TEACHER SAY: Before we start creating, I want us to share our ideas with our friend the beetle. We are going to stand up with a Shoulder Partner. One partner will pretend to be the beetle who is very, very hot in the sun. The other partner will explain to the beetle how we are going to help him. Then you will switch places so both partners get to be the beetle and the helper.

Note to Teacher: This activity is designed to allow students to get up and move around since students have been sitting for most of the lesson. The activity also reinforces conversational skills. You can use **Talking Sticks** *if needed to help identify the student pretending to be the beetle. You can also choose to make several mini beetle puppets for students to use as they role play.*

 **STUDENTS DO:** Stand up with a partner and share the class plan for the sun hat.

TEACHER DO: Help facilitate turn taking and role playing with the students. Listen for explanations of the class plan and correct any misunderstandings students might have.

6. TEACHER SAY: We are ready now to put our materials together to create our hat.

TEACHER DO: Follow the class plan to put the materials together as a demonstration for students. Try to allow students to be involved as much as possible in the creation of the hat. As you are creating, invite students up to help you combine the materials. When bringing students up to help, look at the plan together and determine a specific action step to take. For example, if students are using the paper plate as the brim of the hat, an action step could be "cut out the middle of the paper plate to make a paper ring." Invite students to tell you what you should do next as you are creating the hat. Stop when you think you have a hat that can be tested to see how well it provides shade from the sun.

 **STUDENTS DO:** Work with the teacher to create a hat for the beetle.

7. TEACHER SAY: We have worked hard and we created our first sun hat. Now we need to see how well it does at solving our problem. Then, we can think about how we can IMPROVE our design—that means make our hat even better.

Note to Teacher: At this point, you should have the following steps, which make up the engineering design process:

IDEA→MATERIALS→PLAN→CREATE→IMPROVE

TEACHER DO: Pick one student to come up to the front to try on the hat. Have a flashlight or lamp ready to act like the sun. The student should be able to put the hat on and it should stay on his or her head without falling. Then, shine the light over his or her head to model the sun.

 **STUDENTS DO:** Observe how well the hat provides shade.

TEACHER SAY: The hat is doing really well at ___________. One thing the hat is not doing well at is _____________ (finish these sentences based on what you see). How do you think we can fix the hat to make it even better?

TEACHER DO: Call on students to share ideas for an improvement. An improvement could include: making the area that blocks the sun larger, making the area that blocks the sun cover the back of the hat as well, making a way to have the hat stay on the head by itself, changing the material used to block the sun, etc.

 **STUDENTS DO:** Share ideas for improvements to the hat.

Note to Teacher: There should always be a way to improve upon the original design. Make sure students understand that making improvements and failing initially is part of the design process and should be encouraged.

TEACHER SAY: You all have some great ideas for improvements. Let's try ___________ (state an idea for improvement generated by the class).

TEACHER DO: Make an improvement to the hat based on the input from the class. Invite students to help improve on the sun hat.

8. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: We worked hard to solve a problem for our friend the beetle. Can ____ come lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 6 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Identify external features of plants and animals. • Explain how external features help plants and animals survive in different environments. • Count up to 5 objects.	• Adaptation • Spines • Hump	• Student book • Pictures of a desert beetle, a cactus with spines, a Fennec fox with large ears, a camel with one hump, and a duck floating on the water (these can be printed or digital images)



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: **Let's have a student help us with our opening today.**

TEACHER DO: Ask a verbal student to come lead the opening for today. Show them the jar with the **Calling Sticks**. Let the student select a calling stick, call on the person and ask the question, "Who can remember what we talked about yesterday?" Assist as needed with reading the name from the stick.

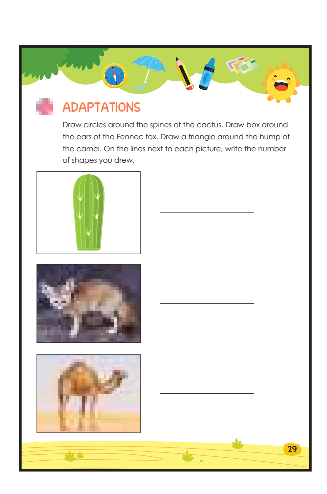


STUDENTS DO: One student selects two or three other students using **Calling Sticks**. The selected students respond to the question asked.

TEACHER SAY: **Yes, yesterday we discovered how to make and improve a hat to protect us. Today we will learn how plants and animals, like our beetle, have special parts to help them survive. Let's see what our beetle is doing now.**

The little beetle was very happy to have made a great hat to give him shade from the sun. He wondered how the other plants and animals in the desert protected themselves. He looked around the desert. He saw a large cactus, a fennec fox, and a camel.

TEACHER DO: Hold up a picture of each plant or animal as you mention them.



ADAPTATIONS

Draw circles around the spines of the cactus. Draw box around the ears of the Fennec fox. Draw a triangle around the hump of the camel. On the lines next to each picture, write the number of shapes you drew.

29

2. TEACHER DO: Pass out student books and hold up a copy open to the page Adaptations.

TEACHER SAY: **Let's learn more about some of the plants and animals our little beetle saw. Our little beetle noticed that the plants and animals he saw had special parts that help them live in a desert. The title of our page is Adaptations. Adaptations are parts of a plant or animal that can help it survive. Everyone repeat the word ADAPTATION with me.**



STUDENTS DO: Repeat the word adaptation.

TEACHER DO: Hold up a picture of a desert beetle.

TEACHER SAY: **The little beetle is pleased with his hat, but the beetle already has some protection from the sun. Look closely at this picture. What do you see that might protect the beetle from the sun? Raise your hand if you have an idea.**



STUDENTS DO: Raise hands to share ideas about what might protect the beetle from the sun.

TEACHER SAY: Those are great ideas. Our little beetle has a hard, outer shell that protects him in many ways, not just from the sun, but from other dangers in the desert.

TEACHER DO: Point to the hard, outer shell on the picture.

TEACHER SAY: This is called an adaptation. This adaptation is different from the hat that we made yesterday. What do you think is different between the hat we made and the beetle's shell?

 **STUDENTS DO:** Raise hands to offer ideas.

TEACHER SAY: Great ideas. The hat is different because it is not part of the beetle's body. An adaptation IS part of a plant's or animal's body. Let's find out more about the adaptations that the little beetle observes around him. In the desert, plants and animals must survive in very hot temperatures. They must also survive without much water. Each of the pictures on this page show us adaptations. Who can name something they see on the page?

 **STUDENTS DO:** Volunteer to name a plant or animal on the page.

TEACHER DO: Call on students to name pictures on the page. Have the class point to each picture identified. When each picture has been identified, focus on each one at a time.

TEACHER SAY: First, let's learn about the cactus. Look at the picture of a cactus. What do you see on the cactus that you do not see on other plants?

 **STUDENTS DO:** Offer ideas about what is unusual on the cactus (the prickly spines).

TEACHER SAY: That's right. The cactus has hard, pointy, spines that poke out. Everyone stand up. Hold your arms out straight in front of you. Keep them stiff like this (demonstrate for students). Turn to your Shoulder Partner. Can you get close to their body?

 **STUDENTS DO:** Hold arms out stiffly to keep others away.

TEACHER SAY: Great. Your arms are like the spines of a cactus. Why do you think the cactus has spines? Share your ideas with your Shoulder Partner.

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.

TEACHER SAY: The spines keep other animals away. Now let's look at the picture of a fennec fox. What do you notice about this fox's head?

 **STUDENTS DO:** Raise hands to offer ideas.

TEACHER SAY: Yes. This fox has very large ears. Turn to your Shoulder Partner and take turns whispering, "Big ears are better." This time, cup your hands behind your ears like this (demonstrate for students). Take turns whispering, "Big ears are better," with your hands cupped behind your ears.

 **STUDENTS DO: Whisper** normally to partner, then again while cupping hands behind ears.

TEACHER SAY: Which whisper sounded louder? The first or the second?

 **STUDENTS DO:** Respond which whisper sounded louder.

TEACHER SAY: You made your ears bigger by cupping your hands behind your ears. This made it easier to hear. You can hear danger coming with big ears. The large ears can also help the fox get rid of extra heat from the sun. The large ears help keep the fox cool. Next, let's look at the picture of the camel. This camel has a lot of the same parts as a horse. What makes the camel look different than a horse?

 **STUDENTS DO:** Raise hands to offer ideas.

TEACHER SAY: **Good observations. The camel has a large hump. The hump stores fat for the camel. The camel can use fat as food and water when they cannot find any in the desert. Imagine you are walking through the desert and there are no places to stop for food. Now picture a big backpack on your back filled with food and water. This is like the hump of a camel. Let's pretend to put on our backpacks full of food and water.**

 **STUDENTS DO:** Act out putting on a backpack.

TEACHER SAY: **Now pretend you are hungry. Take food out of your backpack and take a bite.**

 **STUDENTS DO:** Act out eating food.

TEACHER SAY: **Great acting. The backpack would be heavy for you. Do you think the hump is heavy for a camel to support? Why or why not? Share your ideas with your Shoulder Partner.**

 **STUDENTS DO:** Share and justify opinions with a **Shoulder Partner**.

TEACHER SAY: **We have learned so much about the friends the beetle saw in the desert. Let's remember what we learned by marking the adaptations on this page. I will read the directions.**

 **READ ALOUD:** **Draw a circle around the spines of the cactus. Draw a box around the ears of the fox and draw a triangle around the hump of the camel.**

 **STUDENTS DO:** Complete the page in the student book.

3. TEACHER DO: Observe students as they draw shapes around the correct features of the plants and animals. Repeat the directions to the class when necessary or read one direction at a time. Then provide students time to complete the task before reading the next instruction.

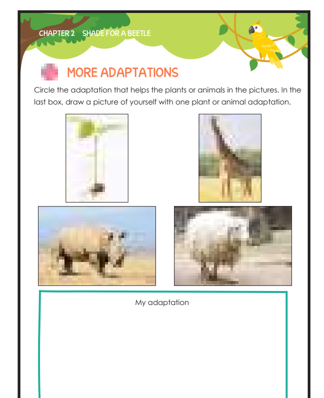
 **READ ALOUD:** **On the lines next to each picture, write the number of shapes you drew.**

TEACHER SAY: **Let's practice counting our shapes. How many circles did you draw? Count them and share your answer with your Shoulder Partner.**

 **STUDENTS DO:** Count and share how many circles they drew.

TEACHER SAY: **Now write that number on the line next to the picture of the cactus.**

TEACHER DO: Repeat the process of counting, sharing, and writing for the number of triangles and boxes on the other two pictures.


CHAPTER 2 SHADE FOR A BEETLE

MORE ADAPTATIONS

Circle the adaptation that helps the plants or animals in the pictures. In the last box, draw a picture of yourself with one plant or animal adaptation.

My adaptation

30

5. TEACHER SAY: **Turn to the page, More Adaptations. Let's see if we can identify some other plant and animal adaptations.**

Note to Teacher: The next activity is written as a guided practice. Depending on the skill level of your students, it could also be assigned as an independent activity by reading aloud the directions and allowing students to work independently or in pairs.

TEACHER DO: Direct the students to look at each picture. Read the question and give students time to select their answer and circle it. Students may work in pairs. Then, continue with the explanation of the adaptation.

 **READ ALOUD:** **Circle the adaptation that helps the plants or animals in pictures.**

TEACHER SAY: **Let's look at the picture of the rhinoceros. What does a rhinoceros have that would help it defend itself from other animals? Circle it.**

 **STUDENTS DO:** Circle the horn on the rhinoceros.

TEACHER SAY: **I see that you have circled the large horn on the rhinoceros. How do you think the horn helps the rhinoceros protect itself?**

 **STUDENTS DO:** Raise hands to offer ideas.

TEACHER SAY: The rhinoceros can use its large horn to keep other animals from charging at it. Can you pretend to show me a horn on your head?

TEACHER DO: Repeat the pattern of conversation for each plant or animal using the question prompts and explanations given below.

Plant: What does a plant have that keeps it in one place? The roots protect the plant by keeping it in one place. The roots can reach deep into the soil to find water.

Sheep: What would help this sheep stay warm? The sheep have thick hair that protect it from the cold.

Giraffe: What would help the giraffe reach leaves that other animals cannot reach? The long neck lets the giraffe reach up high for leaves to eat.

TEACHER SAY: You have learned so much about adaptations. For today's closing, we are going to use our imaginations.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: What adaptation would you want to have and why? You can choose an adaptation we learned about today or make one up. Share your ideas with a Shoulder Partner.

 **STUDENTS DO:** Share with a **Shoulder Partner**.

TEACHER DO: Using **Calling Sticks**, select five or six students to share with the rest of the class.

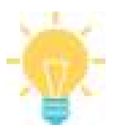
 **STUDENTS DO:** Share with class when called on.

 **READ ALOUD: In the last box, draw a picture of yourself with one plant or animal adaptation.**

 **STUDENTS DO:** Draw a picture of themselves with a plant or animal adaptation.

Lesson 7 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Identify the importance of plants and animals to humans and how to care for those things (through basic needs).	• Basic needs • Shelter • Space • Survive	• Pictures of a cat, a dog, and a fish • Chart paper and markers. • Student book



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: Yesterday, we learned about the special parts called ADAPTATIONS that help plants and animals survive. Who remembers how the camel is adapted to living in the desert?

TEACHER DO: Use **Calling Sticks** to choose a student to respond.

 **STUDENTS DO:** Respond to question if called on.

TEACHER DO: Repeat the question for the fennec fox and the cactus.

TEACHER SAY: Great job remembering what we learned yesterday. Let's check in on our friend the little beetle.

The little beetle liked being safe in the desert. If only it wasn't so hot.

Maybe, if he found a home, he could get out of the sun. The beetle remembered that people in the city had pets live in their home. Our beetle wondered if he should go live in someone's home as a pet. That's silly. Beetles are not an appropriate pet. Turn to your Shoulder Partner to share with them why a beetle would not be a good pet.

 **STUDENTS DO:** Share opinions with a **Shoulder Partner**.

TEACHER SAY: Today we are going to talk about taking care of the pets we do have. Who has a pet at home? Stand up if you have a pet.

 **STUDENTS DO:** Stand if they have a pet.

Note to Teacher: Use the ***Four Corner*** *strategy for this activity. Place a picture of a dog, a cat, and a fish in each of the corners of the room. The last corner does not have a picture.*

2. TEACHER SAY: Let's get some more information about the kinds of pets we have. Look at the pictures in the corners of the room. If you have a pet dog, cat, or fish, please stand in the corner with the matching picture. If you have a different pet, please stand in the corner without a picture. If you don't have a pet or have more than one kind of pet, stand in the corner of the pet you would like to have or of your favorite animal.

 **STUDENTS DO:** Stand in a corner according to the directions.

TEACHER SAY: In your groups, please talk about what your pet needs.

 STUDENTS DO: Discuss the needs of pets.

TEACHER DO: Circulate around the room as students discuss. Encourage students to share any responsibilities they have for taking care of pets.

3. TEACHER SAY: As I call each group, please tell me what your group says their pet needs. I will record your answers on this chart paper.

TEACHER DO: Record each group's answer on chart paper divided into four columns: Dogs, Cats, Fish, Other.

 STUDENTS DO: Share what the group discussed when called.

TEACHER SAY: Does anyone notice anything about these lists?

TEACHER DO: Using **Calling Sticks** select three or four students to share observations (many of the same needs are on all lists).

 STUDENTS DO: Share observations when called on.

TEACHER SAY: I am going to circle in one color all the things that are the same or similar on all the lists.

TEACHER DO: Using a different colored marker, circle all the needs that are the same on all the lists. For example: water, food, place to rest, exercise, toys, love. After using each color to circle similar items, ask students to name the category and write the category name in the same color on a new list.

TEACHER SAY: There are five main things that all living things need to survive: air, food, water, shelter, and space.

TEACHER DO: Write the five basic needs on the chart paper or board as you say them.

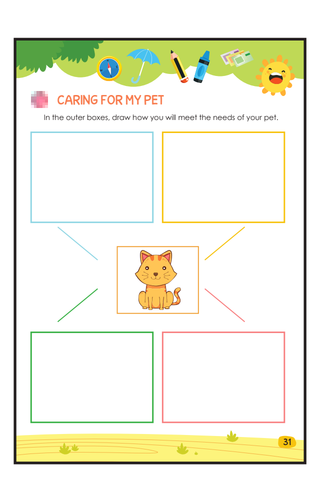
TEACHER SAY: Our pets all need these five things. As our pets, they depend on us to provide some of these things. Let's see: did we miss any of these things on our lists?

 STUDENTS DO: Identify basic needs that are missing on the list of needs the class compiled.

TEACHER DO: Check off the basic needs that were covered in the class-compiled lists and add any basic needs that were missed to the charts.

TEACHER SAY: We know what air, food, and water are. Shelter is a place that can protect an animal, like a cave or your home. Space means you need room to grow and move. When we take care of living things like plants and animals, we have to take care of these basic needs.

4. TEACHER DO: Pass out student books.



TEACHER SAY: Let's capture what we know about caring for our pets. Turn to the page in our student book called Caring for my Pet.

 READ ALOUD: **In the outer boxes, draw how you will meet the needs of your pet.**

 STUDENTS DO: Complete the student page.

TEACHER DO: As students complete the student page, circulate around the room and prompt struggling students to refer to the list of needs on the chart paper or board. Ask students what kind of shelter a pet would need in a home. Ask students what they think the pet would eat. If they are not sure, they can just draw a picture to represent food. Ask students how they will give the pet water: in a dish, by a dropper, or sprinkle it like rain?

TEACHER SAY: Turn to your Shoulder Partner and share your drawings.

 STUDENTS DO: Share completed drawings with a **Shoulder Partner**.

5. TEACHER SAY: **Taking care of a pet is an important job. We have to provide for all their needs. Earlier in the year, we learned that it is important to take care of plants. We now know that it is important to take care of animals, too. Why do you think plants and animals are important to people? Think back on what we have learned throughout the year.**

TEACHER DO: Use Wait Time to let students think before responding to this question. Then use Calling Sticks to have three or four students respond.

TEACHER SAY: **Let's discuss why plants and animals are important. Humans use plants and animals for many things. Let's think about how we have used plants and animals in this chapter. Did you know that many of the materials we used to create our hats came from plants and animals?**

Note to Teacher: Have examples of the paper plates, yarn, and fabric used in Lesson 4 for students to explore. If you have access to digital media, prior to starting the page in the student book, show the students videoclips of how paper, yarn, and fabric is made.

TEACHER SAY: **Let's turn to the page Plants and Animals Are Important. Look at the pictures. What do you see?**



STUDENTS DO: Open student books to the page Plants and Animals Are Important. Raise hands to describe what they see in the pictures.

TEACHER DO: Use this page as a guided practice for students. They are not expected to know how these objects are made.

TEACHER SAY: **Let's look at some ways we used plants and animals to make our hats for our little beetle. On this page we see: A paper plate. A ball of yarn. A piece of material.**



READ ALOUD: **Match the pictures.**

TEACHER SAY: **We know that wood comes from a tree. Did you know that trees are also the resource used to make paper? Point to the picture of of the tree.**



STUDENTS DO: Point to the picture of a tree.

TEACHER SAY: **Great. Draw a line from the paper plate to the tree.**

TEACHER DO: Repeat the guided practice matching with the ball of yarn and sheep and the fabric and cotton plant.



STUDENTS DO: Complete the student page with the teacher.

TEACHER SAY: **Plants and animals are important to us. We use plants and animals for many things including food, clothing, and tools. We should take care of ALL plants and animals. That is why we are working hard to help our little beetle.**

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: **Our little beetle wondered if he needed to leave the hot desert sun and become someone's pet. We talked about how we care for living things in our world and why they are important to us. Can ______ come lead our closing today?**

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use Calling Sticks if your students can read names. If not, allow the leader to call on three volunteers.



STUDENTS DO: Share a new idea learned from today's lessons.

Lesson 8 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Plan a design for a shade structure for a beetle. • Analyze material choices.	• Materials • Design • Plan	• Paper • Cardboard • Plastic bottles • Fabric • Sticks (tongue depressors or actual sticks) • Student book • Flashlight or lamp • Design process flowchart (created in previous lesson)

PREPARATION

Before starting today's lesson, hang up images used previously of shade structures.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: We have learned so much about how people, animals, and plants protect themselves from the sun's heat. Let's see how we can use what we have learned to help our beetle. Who remembers what a shelter is from yesterday's lesson?

 **STUDENTS DO:** Describe or define shelter.

TEACHER SAY: Let's see what our little beetle friend decided about where to live. The little beetle knew that his hard shell was ADAPTED to live outside in the hot desert. He wanted to stay in the desert but he did not want to always be so hot. The beetle noticed the sun was setting. Can everyone put their hands over their heads like this to act like the sun? Now let's move our hands down to show the sun setting.

 **STUDENTS DO:** Act out the sunset with their hands/arms.

TEACHER SAY: He knew it was going to be nighttime soon. The sun would go away for a few hours, and it would be cooler. The beetle decided that he wanted a place that would always be in the shade. If he had a place that was always shady, the sand would feel cooler. He needed something bigger than a hat to make enough shade for the sand around him. He remembered seeing awnings over the front of stores in the city. He remembered seeing people sitting under umbrellas. He remembered seeing canopies over seats at a restaurant. He remembered seeing a pavilion at the park. The little beetle checked his backpack again. He found more fabric, more paper, some sticks, some cardboard, and some plastic water bottles. He wondered how these materials could help him create a shade structure.

2. TEACHER DO: Prepare for **Four Corners**. Place the material choices (paper, cardboard, plastic, and fabric) in different corners of the classroom. Put students into 4 groups to move around the room. If possible, also provide a flashlight or lamp in each corner. If you do not want to have students moving around the room, put materials at tables and rotate the materials.

TEACHER SAY: Our beetle has another problem. Who can tell the class the beetle's problem?

 **STUDENTS DO:** Volunteer to state the beetle's problem.

TEACHER SAY: Our beetle learned that he needs shelter to help meet his needs. He knows being in the sun all day long makes him too hot. Just like we did with our sun hat, we are going to follow the design steps to help design a solution for our beetle.

TEACHER DO: Hang up the design steps chart you created in Lesson 5. (IDEA→MATERIALS → PLAN→CREATE→IMPROVE)

TEACHER SAY: Great. Are you ready to help the beetle create a shade structure? Our first step is to choose an IDEA for what we want to create. Let's review some shade structures we have observed around us in our world. I have pictures of: (name the images you have to share with the class). I will give each group of students a picture to observe. First, discuss the materials that are used.

TEACHER DO: Pass out pictures of different shade structures to table groups or put students in small groups to observe the pictures.

 **STUDENTS DO:** Observe and discuss the picture provided.

TEACHER SAY: Next, look at how the shade structure is standing up. The beetle needs his shade structure to stay standing by itself all day to keep the sand cool. How is the structure in your picture supported?

 **STUDENTS DO:** Observe and discuss the picture provided.

TEACHER DO: Rotate the pictures to different groups. Repeat the two questions and allow students time to examine the different shade structures.

TEACHER SAY: I will use Calling Sticks so we can share what we observed about the different shade structures. When I call on you, you can share a material you observed. You can share how a shade structure stayed up. You can share which shade structure you think works the best.

 **STUDENTS DO:** Share their shade structure observations.

TEACHER DO: Use **Calling Sticks** to provide students the opportunity to share their observations. Repeat what the students can share if a child does not have an idea of what to share.

TEACHER SAY: Now that we have looked at some shade structures, we can explore the MATERIALS we have. We need to observe the materials to help us make a plan. We are going to use Four Corners to move around the room and observe the materials. Observe each material. Which is the best at making shade? How can the materials go together to help make shade for the beetle?

(Optional:) At each corner I have placed a flashlight/lamp. You can hold up the material and shine the light above it. You can look to see how much shade is created under that material.

Note to Teacher: At this point in the theme, students have had several opportunities to observe materials. You can choose to guide students in how to observe the materials and what to look for if you feel more support is necessary. Consider modeling how students can use the flashlight or lamp to test the various materials.

 **STUDENTS DO:** Move to the **Four Corners** to observe the materials provided to create a shade structure.

TEACHER DO: Rotate student groups through the different corners of the classroom to observe the different materials. Provide adequate time at each area for observation. Ask students questions as they observe the materials to help guide their thinking. Prompt students to explain the materials that would be the best at making shade. After students have observed all the materials, move students to their seats and bring the materials up to the front of the classroom, adding the sticks to the piles.

3. TEACHER SAY: Let's share what we observed and the ideas we had about how to use the materials. I will use Calling Sticks to hear from many different students. If I call on you and

you do not have an idea to share, that is okay. Just say, "Skip me please" and you can listen to other's ideas. Remember, we can learn from each other and share ideas.

TEACHER DO: Use **Calling Sticks** to hear from many different students. Call on several students. Use this time to allow students to share ideas. You can help guide students by asking "Which material do you think you should use to make shade?" As students share their ideas, you can model the ideas with the materials as well to allow students to see if an idea might work when it is their time to create.

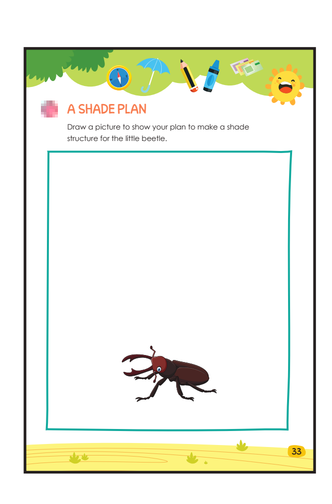
4. TEACHER SAY: Now that you have explored the shade materials, let's explore our support material.

TEACHER DO: Pass out sticks to each table or row for students to observe.

TEACHER SAY: Look closely at the sticks. How do you think they could help hold up your structure?

 **STUDENTS DO:** Observe the sticks and plan how to hold up the material they want to use.

TEACHER SAY: We all have a lot of ideas. You can now take your idea and draw a plan in your books.



TEACHER DO: Pass out student books and pencils. Direct students to the page My Shade Plan.

TEACHER SAY: Open your book to the page that looks like this, called My Shade Plan.

 **READ ALOUD: Draw a picture to show your plan to make a shade structure for the little beetle.**

TEACHER SAY: As you draw, think about which materials you want to put together. I will be walking around and asking you to tell me the materials you want to use. You may share and ask questions of a Shoulder Partner as you work if you need help.

 **STUDENTS DO:** Draw a plan for a shade structure, consulting **Shoulder Partner**s for ideas as needed.

TEACHER DO: Observe student plans and make note of students with similar ideas. You can use this information to assign small groups to create the shade structure in the following lesson. Ask students to explain why they are making different design choices in their plan.

5. TEACHER SAY: Thank you for working so hard on your plan. I want us to share our plans with others in the class. We will share using Shake It, Share It, High Five.
You will move around with your student book so you can share your picture. Make sure you tell your partner the materials you want to use.

TEACHER DO: Facilitate the **Shake it, Share It, High Five** strategy with your students. Allow students to share and talk to at least three other students.

 **STUDENTS DO:** Share shade structure plans with others in the class.

TEACHER SAY: Thank you for sharing with your friends. We have now come up with an IDEA, looked at our MATERIALS, and made a PLAN. Think about some plans that were similar to yours and some plans that were different from yours. Turn and talk to a Shoulder Partner. Tell your partner one idea that was similar and one idea that was different.

 **STUDENTS DO:** Share a similar and different idea with a **Shoulder Partner**.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Tomorrow you will work together to CREATE your plans. Can ______ come lead our closing for us today?

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 9 Overview

LEARNING OUTCOMES	MATERIALS	PREPARATION
Students will: • Collaborate to create a shade structure to protect a beetle.	• Paper • Cardboard • Plastic water bottles • Sticks • Fabric • Tape • Glue • Yarn • **Bell** • Student book	Before starting the day, divide students into small groups of three or four students, to create their shade structure. Decide how much support to give your students for building the structure part of the shade (what holds up the material). If your students are not ready to build a freestanding structure on their own, consider building a template ahead of time to display. Alternatively, you could pre-build base structures for all groups to use so that students can focus on designing and affixing the shade material. Consider inviting volunteers to help support the building portion of this lesson.



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

Note to Teacher: Depending on your class you can allow students to create individually, in small groups or you can create one or two versions of the shade structure together as a whole class. This lesson is written as if students are working in small groups. Modify the teacher script as necessary.

TEACHER DO: Refer to the design process flowchart previously created.

TEACHER SAY: Who can remember which steps we completed yesterday?

 **STUDENTS DO:** Raise hands to offer answers.

TEACHER SAY: Yesterday, we decided on an IDEA, observed MATERIALS, and made a PLAN for our shade structure for the little beetle. We also shared our ideas and saw that some other students had ideas similar to ours. Today you will work in a group that had ideas similar to you. As a group, you will CREATE a shade structure for our beetle friend. Turn to a Shoulder Partner to explain our little beetle's problem and how we are going to solve it.

 **STUDENTS DO:** Share with a **Shoulder Partner** the beetle's problem and an idea for solving it.

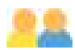
TEACHER DO: Move students into their predetermined groups based on the plans they drew the previous lesson. The group members should all have some similar ideas for how to create the shade structure. Pass out student books.

Note to Teacher: If you are providing a base template for how to hold up the structure, have that displayed in the front of the room. If you feel your students are capable, you can allow them to try to find a way to make their structure stand up on their own.

TEACHER SAY: You are now in your creating group. Say hello to your group members. Remember you are all working together to solve the same problem. We need to listen to each other's ideas. What does it look like if we are being a good listener?

 **STUDENTS DO:** Share a way to show being a good listener.

TEACHER SAY: If something does not work right away, it is okay. What do you think you can do if your idea does not work?

 **STUDENTS DO:** Share something they can do if an idea does not work.

TEACHER SAY: Yes. You and your group members can work together to think of new ideas. I want everyone to open up to the planning page in their books. This is the page we completed yesterday, called A Shade Plan.

Before we start creating, take turns sharing your idea with your new group members.

 **STUDENTS DO:** Share plans in the new groups.

TEACHER DO: While students are sharing plans, pass out materials to each group including pre-torn pieces of tape. You can choose to give each group only the materials they have drawn on their plan, or you can choose to give each group each type of material.

Note to Teacher: If you choose to create one shade structure as a whole class, use this time to draw a plan for the class together. Call on a variety of students to share ideas and input, similar to how the sun hat was planned as a whole class.

TEACHER SAY: It is time to start creating. If you hear my Bell while you are working, pause to hear a new instruction. I will pause us as a class after a little while to see how we are doing and ask questions we might have. I have put out the materials for each group. You can choose to glue, tape, or wrap your materials together with yarn. Just remember that you will have to wait a little for the glue to dry.

TEACHER DO: If needed, consider modeling for students how to use a small amount of glue at a time. You can pour liquid glue onto a plate and students can use their fingers to dab on glue. As students create, provide 10–15 minutes for students to start. During that time, move around the room to support where necessary.

 **STUDENTS DO:** Collaborate in groups to build a shade structure.

Note to Teacher: Students can become frustrated during their creating time. Frustration is okay. Support students by asking questions to help extend their thinking and problem-solving skills: "Why do you think this is not working? What do you think we can change?"

TEACHER DO: Ring the **Bell** after the first 10–15 minutes of building to ask for student attention.

TEACHER SAY: Thank you for pausing your creating. I love what I have seen so far. I like how _____________ (state two or three examples of successes you see students having). I want to use this time to let us share what is working well in your groups. Who wants to share something that your group is doing really well?

 **STUDENTS DO:** Volunteer to share successes.

TEACHER DO: Call on four or five volunteers to share.

TEACHER SAY: Now who can share something that is really hard for their group? It is okay if something is hard. Designing and creating can be difficult.

 **STUDENTS DO:** Volunteer to share difficulties.

TEACHER DO: Call on four or five volunteers to share. As students share, continue to frame the struggle as a positive experience. The struggle is allowing them to think of new ideas. Provide extra support where needed.

TEACHER SAY: Thank you for sharing your experience so far. We have a little more time to work on our shade structures for the beetle. Remember, it is okay if your ideas are not working. That just means you get a chance to think of something new.

TEACHER DO: Move around providing support when necessary to groups. If a group finishes before the end of the session, have them turn to the student book page My Final Design early to begin drawing the final structure.

 **STUDENTS DO:** Continue collaborating to create a shade structure for the beetle.



TEACHER SAY: As you finish, I will collect your structures. Then you can open your book to the page that looks like this called My Final Design.

 **READ ALOUD: Draw what your final shade structure looks like.**

 **STUDENTS DO:** Draw the final shade structure design.

Note to Teacher: Groups may finish at different times. Use your judgement for when to stop and give the student book instructions. Make sure to label the structures with students' names.

2. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Thank you for working so hard with your friends today. Can ______ come lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 10 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Test and present the shade structure's ability to create shade for a beetle.	• Shade • Test • Design	• Shade structures • Flashlight or lamp • Egyptian pound coins (or other standard sized small object) • Chart paper • Student books • **Know-Wonder-Learn Chart**



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: We worked very hard yesterday to create our shade structures. Today we will test and share our structures. We will see if our shade structure will make shade for our beetle. Before we start, turn and share with a Shoulder Partner what you like best on your shade structure.

 **STUDENTS DO:** Share what they like best about their final shade structure with a partner.

TEACHER DO: As students share, display the shade structures in the front of the room on a table. Have a flashlight or a lamp available for testing. Have a small toy or clay model to represent the beetle for testing purposes. To measure, you will be placing numerous small objects (such as Egyptian pound coins, all of the same size) in the shady portion during testing.

TEACHER SAY: We want to find out how well we were able to solve the beetle's problem. Whisper into your hand the beetle's problem again.

 **STUDENTS DO: Whisper** the beetle's problem into their hands.

TEACHER SAY: Yes. Our little beetle needed a place that he could stay that would be protected from the hot sun. He needed a way to make a lot of shade. We will test our shade structures to see how much shade each one creates. To test, I will hold a light above the structure. We will put coins down everywhere we have made shade. Then we will count how many coins we placed down. The more coins we count, the more shade we have created.

TEACHER DO: Test each shade structure one at a time. If the structure cannot stand up by itself, you can allow a student to help hold it in place. Invite the groups up to help put the coins down for their structure. As a class, count the coins that cover the shaded area. On a large chart paper, record the number of coins counted for each structure.

Note to Teacher: If you do not have coins, you can choose to use blocks or any other small, standard size object. If you only have one or two structures as a class, test those and then discuss improvements and modifications to help increase the shaded area. As a class make an improvement and then test again.

 **STUDENTS DO:** Assist in testing each shade structure and count the number of coins that cover the shaded area.

TEACHER SAY: Let's look at what we learned from our test. Which structure made the MOST shade?

 **STUDENTS DO:** Identify the structure that covered the largest area with shade.

TEACHER SAY: Why do we think this shade structure did so well? Turn to a Shoulder Partner and share your ideas.

 **STUDENTS DO:** Share with a **Shoulder Partner** why they think the structure did so well.

TEACHER SAY: Congratulations to everyone for creating shade for our beetle. Let's see how our beetle friend is doing.

That night the beetle worked hard putting all the materials together. He taped. He glued. He twisted. He was working so hard he fell asleep under his structure just before the sun came up.

And he kept on sleeping all morning. When he finally woke up he thought, "It must still be night time. I do not feel all the heat from the sun and I do not see the bright sun in the sky." Wait, why does he not feel the heat or see the bright sun?

 **STUDENTS DO:** Call out a response.

TEACHER SAY: Let me keep reading.

The little beetle looked up and saw his shade structure was standing up above him. He had made himself shade. He finally had made a wonderful home for himself in the desert. He was away from all the busy streets and people. He had a big open space to live in and now protection from the bright hot sun. The little beetle was so happy. The end.

Wow class. Thank you for helping our beetle friend.

TEACHER DO: Pass out student books. Hang the **Know-Wonder-Learn Chart** up at the front of the room.

TEACHER SAY: You and a Shoulder Partner will now share three new ideas you learned during this chapter. You can use your student books to help you remember. Then we will share as a class and I can add what we learned about the sun to our Know-Wonder-Learn Chart in the LEARN section.

 **STUDENTS DO:** Share new ideas learned with a **Shoulder Partner**.

TEACHER DO: Move around the room and encourage students to look back at pages in the student books to help recall information.

TEACHER SAY: Thank your partner for sharing. Now I will use Calling Sticks to add to the LEARN part of our Know-Wonder-Learn Chart.

TEACHER DO: Use **Calling Sticks** to solicit responses from students. Call on as many students as time allows.

 **STUDENTS DO:** State a new idea learned in the chapter when called on.

TEACHER SAY: You are all such hard workers. We helped the beetle learn all about the sun and the sun's heat. We helped him learn about how other animals adapt and survive in the desert environment. And we finally helped him build a shade structure so he can live happily ever after. We learned how the sun works in our world.

KINDERGARTEN I

Multidisciplinary

HOW THE WORLD WORKS

Chapter 3: Where Can I Buy…?

Theme Overview

Where Can I Buy...?

COMPONENT	DESCRIPTION	LESSONS
Discover	Students describe the difference between wants and needs. Students discover where to buy goods and the jobs that produce goods.	3
Learn	Students create goods to meet needs and wants. Students identify the importance of saving, ways to save and explore how technology helps in our lives.	5
Share	Students role play jobs and skills in a marketplace and create a puppet show to help a friend learn about going to a market.	2

Connection to Issues



Environmental: Our earth and environment need to be sustained. We can appreciate the environment as a community.

Globalization: Technology helps us and has changed over time. We have a special culture in Egypt around water.

Life Skills Addressed

Where Can I Buy…?

DIMENSION	DESCRIPTION
Learn to Know	**Critical Thinking:** • Differentiate between similarities and differences. **Creativity:** • Flexibility in generating a diversity of ideas that are not typically expected and be able to readjust when the situation changes. • Originality in generating new and unique ideas. **Problem Solving:** • Identify the problem.
Learn to Do	**Collaboration:** • Abide by common rules of the team. **Negotiation:** • Good Listening.
Learn to Live Together	**Respect for diversity:** • Respect the opinions of others. **Empathy:** • Help others. **Sharing:** • Awareness of Roles
Learn to Be	**Self-management:** • Set clear goals. **Communication:** • Self-expression.

Learning Indicators

Throughout this chapter, students will work toward the following learning indicators:

READING:

Phonics and Word Recognition

- Read common high frequency words.

Language: Vocabulary Acquisition and Use

- Understand and use question words.
- Explore word relationships and meaning with guidance and support.

WRITING:

Process, Production, and Research

- Orally produce sentences in shared language activities.

SPEAKING AND LISTENING:

Foundational Skills

- Use appropriate vocabulary, gestures, facial expressions, and body language for the situation.
- Participate in collaborative conversations with diverse partners about topics and texts with peers and adults.
- Describe people, places, things, and events with relevant details and provide additional detail with prompting and support. . Add drawings or other visual displays to descriptions to provide additional detail.
- Express thoughts, feelings, and ideas clearly.

Fluency

- Orally produce complete sentences when appropriate to task and situation.

MATH:

Operations and Algebraic Thinking

- Represent addition and subtraction with objects, fingers, mental images, drawings, sounds, acting out situations, or verbal explanations, expressions, or equations.
- Add and subtract within 10 using strategies such as;
  - using objects or drawings to represent a problem
  - decomposing numbers into pairs in more than one way (e.g., 5=2+3 and 5=4+1)
  - finding the number of objects that make 10 when added to any number 1-9
- Employ units of money until 10 Egyptian pounds in addition and subtraction problems.

Numbers and Operations in Base 10

- Compose and decompose 10 using objects, drawings, etc.

Measurement

- Recognize different units of money, including 1 Egyptian pound, 5 pounds, 10 pounds.

SCIENCES:

Skills and Processes

- Design and make things with simple tools and a variety of materials.
- Identify parts of things and how one part connects to another..

ECONOMICS AND HISTORY:

- Explain the difference between something we want and something we need.
- Identify different types of goods.
- Explain the importance of money in his/her life.
- Identify some manual labor jobs (carpenter) and the places where these take place.
- Match professions with the tools used in each profession (carpenter, farmer).
- Explain what would happen if some professions did not exist.
- Demonstrate respect for people practicing different professions (through drawings, and so on.).

DRAMA:

Puppetry

- Use the puppet to help a friend solve a theme-related problem.

LIBRARY:

Types of Media in the Library

- View digital resources related to the theme.

ECONOMICS AND APPLIED SCIENCE:

Resources of Individuals and Families

- Identify the concept of resources.

Importance of Managing Individual and Family Resources

- Identifies the concept and importance of saving.

VOCATIONAL FIELDS:

Commercial Jobs

- Collaborate with classmates to create a photo album about commercial jobs.
- Match the name of the commercial profession with the picture of the professional.
- Identify the names of goods being sold or purchased in the environment.

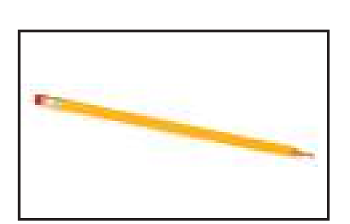
CH 3 Pacing Guide

LESSON	INSTRUCTIONAL FOCUS
1	**DISCOVER: Students will:** • Describe the difference between wants and needs. • Identify places in the community to purchase goods. • Describe proper behavior in a market place. • Compare the purpose of various places in the community.
2	**DISCOVER: Students will:** • Identify and describe different goods. • Observe and describe where goods come from. • Use ordinal numbers to describe the steps in a process.
3	**DISCOVER: Students will:** • Identify jobs that produce goods. • Role play jobs and show respect for workers. • Predict what would happen if a job did not exist.
4	**LEARN: Students will:** • Describe how people obtain goods. • Describe the importance of having a job in the community.
5	**LEARN: Students will:** • Explain choices people make with money (spending versus saving). • Explain the importance of saving money.
6	**LEARN: Students will:** • Create a good that meets a need or a want. • Describe the tools needed to produce a good.
7	**LEARN: Students will:** • Identify and describe technology. • Describe how technology helps in our lives.
8	**LEARN: Students will:** • Create a market in the classroom. • Sort and label goods in the market. • Identify jobs to be performed in the market. • Identify goods to be purchased to meet a want and a need.
9	**SHARE: Students will:** • Role play in a classroom market. • Make choices based on wants and needs.
10	**SHARE: Students will:** • Provide advice to a student about what to expect and how to act in a market place.

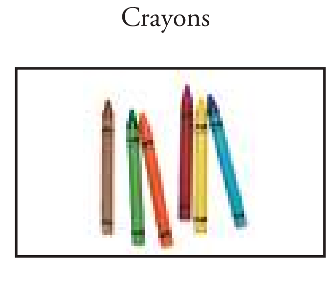
Materials Used

Student book

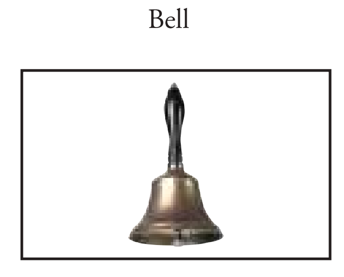
Pencils



Crayons



Bell



Blackboard or chart paper



Markers



Large format paper



Various art supplies



Play or pretend money

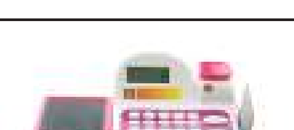




Clipboard (optional)

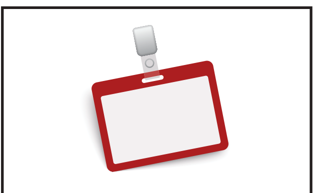


Cash register (optional)





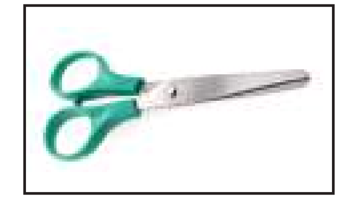
Badges or nametags



Paper or plastic bags



Scissors



Lesson 1 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Describe the difference between wants and needs. • Identify places in the community to purchase goods. • Describe proper behavior in a market place. • Compare the purpose of various places in the community.	• Wants • Needs • Goods • Buy	• Chart paper • Student book



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.
This is a time to excite your students about the chapter. Tell them they are beginning a chapter of study called, "Where Can I Buy?"

TEACHER SAY: We have been learning about how the world works. Today we are starting a new chapter. We will explore a new part of our world. This chapter is called "Where Can I Buy?" What part of our world do you think we will be exploring?

TEACHER DO: Use **Calling Sticks** to choose several students to answer the question before continuing.

STUDENTS DO: Predict the topic from the chapter title.

2. TEACHER SAY:
In this chapter we will be learning how people buy GOODS. We will explore where GOODS come from, and why different GOODS are important in our world. At the end of this chapter, we will create a puppet show to share with others what we have learned about buying and selling goods at the market.
People buy goods every day.
Let's Brainstorm a list of things we can buy.

TEACHER DO: Hang up chart paper at the front of the room. Use **Calling Sticks** to generate a long list of things students (or their families) buy. You may also wish to use this activity to invite students to participate who may not always offer ideas. Accept responses and provide good feedback for participation.



STUDENTS DO: Offer examples of goods to buy.

TEACHER SAY: We have a very long list. Let's identify the things on the list that are very important to us. Those things are NEEDS. We have learned a lot about needs. Who can remind the class: what is a need?



STUDENTS DO: Volunteer to describe needs to the class.

TEACHER DO: Call on one or two volunteers to describe what a need is. Address any misunderstandings students might have.

TEACHER SAY: **A need is something people must have to stay healthy and safe. Who can find a need on our list? I will circle it.**

TEACHER DO: Call on students to identify needs and circle them in one color. If a need is identified but not on the list, write it on the list and then circle it.

 **STUDENTS DO:** Identify needs from the list.

TEACHER SAY: **We circled many needs. But there are a lot of goods left on our list. We know these goods are not needs. We have talked about another category of things. If something is not a NEED, what else can we call it?**
______ and _______ and _______ (name items on the list that are not needs) are examples.

 **STUDENTS DO:** Offer ideas (answer "WANTS").

TEACHER DO: Call on volunteers until a student identifies the second category as wants.

TEACHER SAY: **Yes. The goods I listed are examples of WANTS. They are nice to have and we enjoy them, but we do not NEED them to stay healthy and safe.**

Note to Teacher: The concept of wants and needs should be familiar to students from previous work. If you believe your students need a reminder of the difference between wants and needs, you can use this time to review more in depth as a class.

3. TEACHER DO: Pass out student books and pencils.

TEACHER SAY: **Let's practice identifying wants and needs. We have done this before, but this time we have a new set of pictures. We will sort goods that we can buy, like the goods on our list. Open your books to the page Wants and Needs.**

 **READ ALOUD:** **Circle the goods that meet a need. Draw a box around the goods that are wants.**

Note to Teacher: Since students have completed similar activities earlier in the year, encourage them to complete this activity independently. If students are not yet ready to work independently, suggest that they work with a **Shoulder Partner***.*

 **STUDENTS DO:** Circle goods and draw boxes around wants.

TEACHER DO: Move around as students are working. Ask students to tell you how they know a good is a want or a need.

TEACHER SAY: **Great job identifying wants and needs. Let's quickly share what we identified with a Shoulder Partner. Take turns identifying a good on the page and telling if it meets a want or a need. If you disagree, explain your thinking and decide as a pair which you think is right.**

 **STUDENTS DO:** Share with a **Shoulder Partner** whether a good meets a want or a need.

4. TEACHER DO: Hang a chart paper in the front of the room. You will create a **Word Web**.

TEACHER SAY: **We know we need to BUY many of our wants and needs. Has anyone ever been with a parent when they went to buy a good? Can you describe what happened?**

 **STUDENTS DO:** Volunteer to share experiences shopping with a parent.

TEACHER SAY: **When you buy a good, you give money to the store in exchange for the good you want or need. Where do you go to BUY goods? Where do you go to shop? I will make a Word Web to record places where we can shop.**

TEACHER DO: Use **Calling Sticks** to have students identify places they know in the community to shop. Record responses on the **Word Web**.

 **STUDENTS DO:** Name places in the community to purchase goods.

TEACHER SAY: We know a lot about where to purchase goods. _______ and _______ and _______ (name actual stores in your community that sell different goods).

Note to Teacher: Make sure a variety of stores (such as grocery store, butcher, pharmacy, toy store) are included on the **Word Web***. If students do not name these voluntarily, add them to the list as you record answers.*

TEACHER SAY: Raise your hand if you have gone with an adult to shop at ________.

 **STUDENTS DO:** Raise hands in response to teacher statements.

TEACHER DO: Repeat the activity "Raise your hand…" for a variety of stores in the community. Use this quick activity to assess your students' familiarity with shopping in the community.

5. TEACHER SAY: You have all learned a lot this year about how we should behave at school. When you go shopping at these stores, how should we behave?

TEACHER DO: Provide **Wait Time** for students to think about proper behavior when shopping. Use **Calling Sticks** to have students share proper behavior. This can include: walking while indoors, keeping their hands off the goods on shelves, listening to their adults, using quiet voices, only touching things to be purchased, or saying please and thank you to the adults working in the store. If students are unsure, give students options: "Do you think you should grab goods off the shelves or wait until an adult asks you to get something?"

 **STUDENTS DO:** Identify appropriate behaviors for shopping.

TEACHER SAY: We know when we go out shopping we need to use appropriate behavior. Let's practice together. Everyone stand up. Imagine you are holding a shopping basket.

TEACHER DO: Pretend to hold a basket in your hand, at your side.

TEACHER SAY: We should be careful not to bump into anyone with our baskets. Do you think I should walk like this? (pretend to swing the basket all around you).

 **STUDENTS DO:** Respond "No."

TEACHER SAY: Show me how you should walk with your basket at the store.

 **STUDENTS DO:** Act out walking slowly around the room, being careful not to swing their arm.

TEACHER SAY: I see lots of careful walking. Walk back to your seats. Now let's pretend you do not know where something is in the store. Do you think I should start running and yelling to look for it?

 **STUDENTS DO:** Respond "No."

TEACHER SAY: You are right. Running and yelling will not help me. What do you think I should do?

TEACHER DO: Call on two or three students to describe an appropriate behavior.

 **STUDENTS DO:** Respond with an appropriate behavior (politely ask an adult, walk, and carefully look at the shelves).

TEACHER SAY: Let's practice turning to a Shoulder Partner to politely ask where to find something you need. What would be a polite way to ask for help finding apples?

 **STUDENTS DO:** Turn to **Shoulder Partner** to practice asking for help.

TEACHER SAY: Excuse me, where can I find the apples? That is a great way to ask for help. Why do you think it is important to use polite behavior when we go out?

 STUDENTS DO: Share reasons why it is important to act politely.



6. TEACHER DO: Have students turn to the page called Polite Behavior in their student books.

TEACHER SAY: Turn to the page Polite Behavior. You did a great job acting out good behavior. Let's see if we can recognize examples in this picture. You can see children with their parents. They are shopping at a large department store.

 **READ ALOUD: Look at how each child is behaving. Circle the children showing polite behavior. Draw an X on children showing bad behavior.**

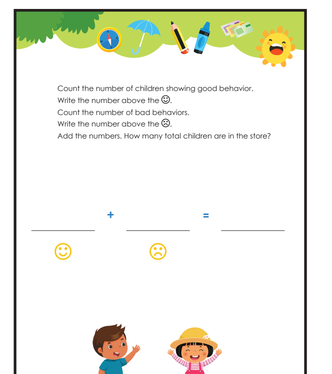
TEACHER SAY: Try this on your own first, then we will talk about what you circled.

 STUDENTS DO: Work independently to circle the polite behavior on the page and draw an X on the bad behavior.

TEACHER DO: Assist children as they complete the page in the book. Prompt students to think about what the child in the picture might be saying and why they might be acting a certain way to help them analyze what type of behavior they are observing.

Note to Teacher: If your students are not familiar with a large department store, connect the image to a store they may be familiar with. For example, you may wish to reference a local marketplace.

TEACHER SAY: Now that everyone has had a chance to work on their own, let's talk about what we circled. I will use Calling Sticks. When I call on you, tell us a behavior you saw on the page. Tell us whether it is a polite or bad behavior. Everyone else: If you agree with the student answering, show me a Thumbs Up.



TEACHER DO: Use **Calling Sticks** to have students identify the types of behavior in the scene. After each child answers, have students give a **Thumbs Up** if they agree with the answer given. If a child is unsure or there is disagreement on a behavior, act out the behavior in the picture to provide a more concrete example. Continue until all six pictures have been discussed.

 STUDENTS DO: Identify the types of behavior observed on the page.

 **READ ALOUD: Count the number of children showing good behavior. Write the number above the ☺. Count the number of bad behaviors. Write the number above the ☹. Add the numbers. How many total children are in the store?**

Note to Teacher: Work with your class to write the addition number sentence. You can also model on the board with the class and students can copy. Students are not expected to write a number sentence independently. They should be familiar with combining numbers.

TEACHER SAY: Let's follow these directions one step at a time.

 **READ ALOUD: Count the number of children showing good behavior.**

 STUDENTS DO: Count the number of behaviors circled.

TEACHER SAY: How many good behaviors did we circle?

 STUDENTS DO: Count and state 3.

TEACHER SAY: Yes, 3 children had good behaviors in the store. On the line above the happy face, write the number 3. Now, how many bad behaviors did we X?

 STUDENTS DO: Count and state 3.

TEACHER SAY: Yes, 3 children were using bad behavior in the store. On the line above the sad face, write the number 3. What can you tell me about the number of good behaviors and the number of bad behaviors?

 **STUDENTS DO:** Identify that the numbers are equal or the same.

TEACHER SAY: Yes, the numbers are the same. The groups are equal. We want to know how many children are at the store all together. We need to combine or put the two numbers together. Hold up 3 fingers on one hand. Now hold 3 fingers on the other hand. This shows the two groups of children. Now let's count our fingers all together. Wave one hand in the air and say 3.

 **STUDENTS DO:** Hold up 3 fingers on each hand, then wave one hand in the air and call out 3.

TEACHER SAY: We know there are 3 fingers on this hand, so we say 3. Then we count on 3 more. Wiggle each of your next fingers to help count on. 4, 5, 6.

 **STUDENTS DO:** Count on 3 more, using their fingers.

TEACHER SAY: Now we know there are 6 children all together. Let's write 6 on the last line.

 **STUDENTS DO:** Write 6 on the last line.

TEACHER SAY: We can read our number sentence together. Point to each number and symbol as I say them. 3 and 3 makes 6. Now you read it out loud with me. 3 and 3 makes 6.

 **STUDENTS DO:** Point as the teacher reads the number sentence, then read the number sentence along with the teacher.

Note to Teacher: Connect the numerical sentence, using symbols and numbers, to the picture shown and the directions on the student page. At this age it is important for students to concretely and explicitly connect mathematical sentences with the scenarios they represent. Students should be asked this whenever performing mathematical tasks, even if the task seems simple. Always go back to the original intent of the problem (in this case, the number of children behaving a certain way, and the number of children total) and encourage students to make the connections between words, pictures, counting on, using fingers/objects to count and symbols/numerals.

TEACHER SAY: Remind me again, when we say "3 and 3 makes 6," what do we mean by 3, 3 and 6? What do these numbers mean in this example?

 **STUDENTS DO:** Respond that the 3 refers to the number of children behaving each way, and the 6 refers to the total number of children shown in the picture.

TEACHER SAY: Great job combining numbers. I hope you all use good behavior like the 3 friends in our picture. When we act politely in a store, we are showing respect for those around us.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today we thought about where we can buy goods and how we should behave when we shop. Can __________ please come help lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 2 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Identify and describe different goods. • Observe and describe where goods come from. • Use ordinal numbers to describe the steps in a process.	• Goods • Stores • Purpose • Farmer • Carpenter	• Store images (either view digital images or printed images) • Sample goods • Student book

PREPARATION

Gather images of stores that can be found in your community. You can consider taking pictures or finding digital/printed images to use. Aim for at least one image per small group (four to six students) or table. The stores should show a variety of goods being sold (butcher, pharmacy, grocery, department store, clothing store, and so on).
Bring in a few real goods to share with the class: shirt, shoes, piece of fruit, bread, book, toy, paper, pencil.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER DO: Pass out images of stores. You can put the images at table groups.

TEACHER SAY: Yesterday we named goods that met our wants and needs. We talked about where we can find goods in our community. We discovered how we should behave when we go shopping. Who can share something they discovered yesterday?

TEACHER DO: Use **Calling Sticks** to have students state what they remember from yesterday's lesson.

 **STUDENTS DO:** Share something they discovered in the previous lesson.

TEACHER SAY: Today we will discover the many different types of stores we have in our community. We will also think about where the goods in stores come from. Look at the picture of a store at your table. What goods do you see?

TEACHER DO: Call on a student from each table group to answer the question before continuing.

 **STUDENTS DO:** Name a good in the picture.

TEACHER SAY: Wow. I heard many different goods being named.
Different stores often sell different goods. Different stores can help us meet our unique wants and needs. Let's explore stores.

2. TEACHER DO: Have real objects to share with the class: shirt, shoes, piece of fruit, bread, book, toy, paper, pencil. You can choose to add more goods to the exploration with students.

Note to Teacher: If you are unable to bring in the real objects, have images of the objects available to share with the class, or use objects from around the classroom (for example, point to a student's shirt). Try to

include at least one food item. Adjust the conversation according to the items that you are able to gather.

TEACHER SAY: I have many different goods in front of us. Do you think you would find these all in the same store?

 **STUDENTS DO:** Volunteer a response to the question.

TEACHER SAY: Each of these goods meets a different want or need (name each good with the class). Each of these goods might be found in a different shop. Let's see if we can figure out which store might sell each good. First, I need help sorting the goods. Let's identify the wants and needs each good meets. Who can find a good that meets our need for food?

 **STUDENTS DO:** Identify the goods that meet the need for food.

TEACHER DO: You can choose to invite students to come up to identify the goods or name the goods from their seat.

TEACHER SAY: Who can come find the goods that can protect our body and keep us safe?

 **STUDENTS DO:** Identify clothing to protect their body.

TEACHER SAY: Who can find the goods that help someone work and learn?

 **STUDENTS DO:** Identify the book, pencil, and paper as goods to help us work and learn.

TEACHER SAY: Who can find the goods that help us play and have fun?

 **STUDENTS DO:** Identify toys for having fun.

TEACHER SAY: We just sorted the goods by their PURPOSE. Can everyone say that word with me? PURPOSE.

 **STUDENTS DO:** Repeat the word "purpose."

TEACHER SAY: Purpose means what something is used for. These goods all have different purposes. Thumbs up if you think we could find all these goods in the same store?

 **STUDENTS DO:** Show a **Thumbs Up** if they think they could find the goods in one store.

TEACHER SAY: Let's think about stores we have visited. Have we ever seen these goods in stores? Thumbs Up if you have seen these before.

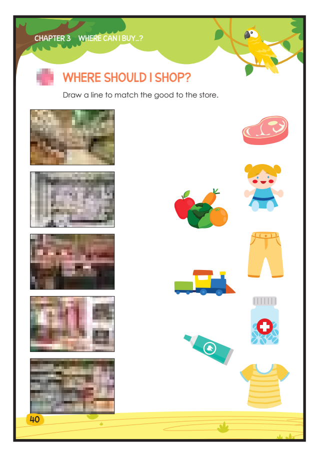
 **STUDENTS DO:** Show a **Thumbs Up** if they had seen these goods in a store.

TEACHER SAY: Which stores sell these goods? Let's start with the food: I see a piece of fruit and bread. Can someone name a place to buy these goods?

 **STUDENTS DO:** Identify a shop in the community that sells food and groceries.

TEACHER SAY: Yes. The __________ sells food.

TEACHER DO: Repeat questioning about where to find goods for each group that was sorted. You can use names of actual stores in the community along with store descriptions (such as a butcher) to make local, personal connections.



3. TEACHER DO: Pass out student books and pencils. Have students turn to the page called Where Should I Shop?

TEACHER SAY: Let's all open our books to the page Where Should I Shop? Let's practice matching goods with the stores that sell them.

 **READ ALOUD: Draw a line to match the good to the store.**

TEACHER SAY: What can you see on the page?

TEACHER DO: Use **Calling Sticks** to have students name the goods and stores they see on the page. Students can call out goods and stores in random order, or you can point to each picture and ask students to name what they see.

 **STUDENTS DO:** Identify the goods and stores on the page.

TEACHER SAY: Look at the pictures of goods. Think about where you can buy each one. Then, draw a line to match the store to the good. When we are done we will talk about what we matched.

 **STUDENTS DO:** Draw a line to match goods with stores.

TEACHER DO: Monitor students as they work independently.

Note to Teacher: Some goods might have multiple answers depending on stores in your community. For example, meat can be sold at a butcher and a grocery store. Students can make a line from one good to multiple stores if appropriate but ask them to justify answers. Allow students to offer answers from experience that might not be represented on the page, such as buying food at an outdoor market. Affirm these answers, then support students as needed to find the best match on the page for each item.

TEACHER SAY: Now that we are all finished, turn to a Shoulder Partner to share the matches that you made.

 **STUDENTS DO:** Share work with a **Shoulder Partner**.

TEACHER DO: As students work with a partner, help facilitate discussions if students disagree. Have students explain answers and examples, then agree on one or more answers. If you see many incorrect matches as you walk around, review the matches as a full class after students finish **Shoulder Partner** discussions. **Think Aloud** and ask students to justify answers to deepen understanding.

4. TEACHER DO: Have students close the books, but keep the books nearby for the next activity.

TEACHER SAY: We all can identify goods we can buy at stores. I wonder, how do you think those goods arrive at the store? Where do you think goods come from? Some of our food grows from plants. Who can name a food that comes from a plant?

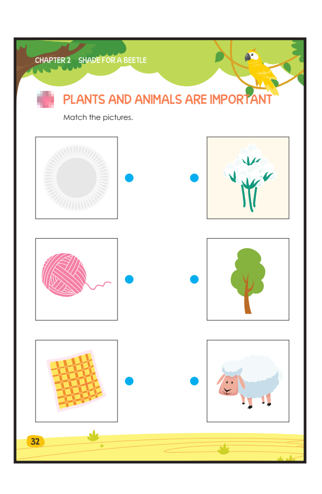
 **STUDENTS DO:** Volunteer to name foods grown on a plant.

TEACHER DO: Students should be familiar with fruits and vegetables to name.

**TEACHER SAY: So we know that farmers grow fruits and vegetables. Then a store sells us fruits and vegetables. But do you think a table grows on a plant?
Where do you think some of our man-made goods come from?**

TEACHER DO: Provide **Wait Time** to allow students to think about where goods come from. Then use **Calling Sticks** to have four or five students share what they think.

 **STUDENTS DO:** Share ideas on where goods might come from.



TEACHER SAY: In our last chapter, we learned that plants and animals are important. Plants and animals provide materials we use everyday. Turn back to the page called Plants and Animals Are Important. Look at the goods on the page. Call out a good you can see.

TEACHER DO: Hold up a student book turned to the correct page (in the previous chapter) so that students can see and remember what the page looks like.

 **STUDENTS DO:** Turn to the correct page in the book and call out goods they see on the page.

TEACHER SAY: Does anyone remember what plants these goods come from?

TEACHER DO: Call on student volunteers to answer the question. If no one remembers, you can describe how a shirt can be made from a cotton plant and paper is made from trees.

 **STUDENTS DO:** Volunteer to share where a good comes from.

TEACHER SAY: Great job remembering what we already learned. Many goods are made or grown by people. Farmers grow the fruits and vegetables we buy at a store. Farmers also take care of the animals we buy from the butcher. We know that tables do not grow on plants (that would be silly). But a wooden table uses material from a plant. Can anyone guess what plant?

 **STUDENTS DO:** Offer ideas.

TEACHER SAY: A carpenter can use wood from a tree to make a table. Hmmm. A table does not look much like a tree. Let's think. How is a table made? Turn and share your thoughts with a Shoulder Partner. What tools would a carpenter need? What materials would a carpenter need?

 **STUDENTS DO:** Share with a **Shoulder Partner**, tools and materials the carpenter would need to make a table.

TEACHER DO: Support students in their discussions. Refer students back to tools learned previously in the school year and materials.

5. TEACHER SAY: Let's all open our books again to the page that looks like this (show page), called Making a Table. Let's explore how a carpenter makes a table.

 **READ ALOUD: Circle the tools and materials a carpenter needs to make a table.**

 **STUDENTS DO:** Circle the wood, hammer, and saw.

TEACHER DO: If students need more support, this can become a whole class activity to consider each picture one at a time and decide whether it would be useful for making a table (if yes, circle the image).

TEACHER SAY: Who can share something they circled?

 **STUDENTS DO:** Volunteer to share a tool or material circled.

 **READ ALOUD: Put the pictures showing how to make a table in order. Write 1, 2, and 3 under the pictures.**

TEACHER SAY: Look at the three pictures of the carpenter. They are not in order. What do you think the carpenter needs to do first to make a table? Write a number 1 under that picture.

 **STUDENTS DO:** Write 1 under the picture of the carpenter with his materials.

TEACHER SAY: Now what do you think he needs to do second? Write a number 2 under that picture.

 **STUDENTS DO:** Write a 2 under the picture of the carpenter hammering.

TEACHER SAY: What do you think the carpenter does third? Write a number 3 under that picture.

 **STUDENTS DO:** Write a 3 under the last picture.

**TEACHER SAY: We put the pictures in order to show how to make a table. I want us to practice giving directions to make a table with a Shoulder Partner.
We can use the words first, second, and third to tell the three steps.**

 **STUDENTS DO:** Practice orally describing the steps in order using the words: first, second, and third.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: **Today we thought about goods and where they come from.
Can ______ come help lead our closing today?**

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 3 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Identify jobs that produce goods. • Role play jobs and show respect for workers. • Predict what would happen if a job did not exist.	• Job • Carpenter • Seamstress • Butcher • Good • Respect	• Student book • Pencil • Pictures of various goods (such as meat, clothing, car, table)

PREPARATION

Find four images of various goods, such as meat, clothing, a car, a wooden table. Hang or place the images in the **Four Corners** of the room. If students cannot move around the room, copy the images and provide each table or small group with the set of four images.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: Yesterday we identified places to buy different goods. We also started thinking about how people help make the goods we can buy. Who can remember what materials and tools a carpenter needed to make a table?

 **STUDENTS DO:** Identify the wood, saw, and hammer.

TEACHER SAY: Great remembering. Building tables and other furniture is a job that helps make goods. Today we are going to explore more jobs. We will discover how these jobs help us by making goods.

2. TEACHER DO: Pass out pictures of various goods (such as meat, clothing, car, table) if pictures are not already in **Four Corners**. If possible, use the **Four Corners** strategy to facilitate the following discussion in more depth.

TEACHER SAY: I have four pictures to share with you. Each picture shows a different good. Name the good with me.

TEACHER DO: Hold up each picture for the class to see as you walk to each corner. After identifying the pictures, have students move to the **Four Corners** to discuss each.

 **STUDENTS DO:** Identify the goods in each image.

TEACHER SAY: We use these goods every day. I wonder who makes these goods. Think to yourself "Who might make the good in the picture before you."

TEACHER DO: Provide **Wait Time** for students to think.

 STUDENTS DO: Think quietly.

TEACHER SAY: **Now, discuss your ideas with your group. If you can, guess what materials and tools are used to make the good.**

 STUDENTS DO: Discuss who makes the good in the picture.

TEACHER DO: Rotate students periodically and repeat the discussion question.

On the final rotation, use **Calling Sticks** to have students share who they think produces each good. You may need to introduce the vocabulary to describe different jobs as listed in the next set of teacher instructions. If you wish to spend additional time listing each job and practicing the terms with your students, you may choose to do so before moving on to the student activity.

TEACHER SAY: **Meat comes from a farmer who raises the animals. The butcher then cuts up the meat to sell it. A table is made by a carpenter. Clothing comes from a seamstress or a tailor.**



3. TEACHER DO: Pass out student books. Have students open to the page What Am I Making?

TEACHER SAY: **Open your books to the page What Am I Making? I can see three pictures of workers. Point to the carpenter. Point to the seamstress. Point to the butcher.**

 STUDENTS DO: Point to the workers as the teacher states each one.

 READ ALOUD: **Draw a picture next to each worker to show the good he or she is making.**

 STUDENTS DO: Draw a good to show what each worker produces.

TEACHER DO: Monitor as students draw. Prompt students to tell you what he or she is drawing for each worker. Challenge students to think of the tools each worker would need to produce his or her good.

TEACHER SAY: **I noticed that not everyone drew the same picture for each worker. Let's share our drawings with friends. Let's Shake It Share It High Five to show each other the goods we drew. You will share what you drew for each job with three of your classmates.**

TEACHER DO: Lead students in **Shake It Share It High Five**. Have students share with three people for each job.

 STUDENTS DO: Share drawings of goods being made.

4. TEACHER SAY: **Thank you for sharing. Everyone move back to your seats.**

TEACHER DO: Have students close books but keep them nearby.

TEACHER SAY: **There are many jobs that help produce goods for us. Every job is important, and we should be respectful of those workers. What does it mean to be respectful?**

TEACHER DO: Call on student volunteers to identify the meaning of respectful.

 STUDENTS DO: Volunteer to share the meaning of respectful.

TEACHER SAY: **Respectful means we are being kind, polite, and thankful for the work people do to help us meet our needs. A few days ago, we talked about how to behave in stores. We were practicing being RESPECTFUL in a store. We can also show respect for jobs and work. I will model some more behaviors. Show me a Thumbs Up if I am being respectful, and a thumbs down if I am not.**

TEACHER DO: Invite a student to come up to the front of the room. Give the student a job (seamstress, butcher, carpenter, and so on). Ask the student to act out performing the job. If students are unfamiliar with the actions of the given job, you should do most of the acting. Model interacting with that job (either you or the student). Alternate between disrespectful interactions (snatching the

good from the person, not saying thank you, yelling directions to the person) and respectful interactions (saying please and thank you, waiting patiently, asking a question politely, complimenting work). Repeat this with several students modeling different jobs.

5. TEACHER SAY: **You did a great job identifying respectful behavior. Now you will get a turn to practice. Turn to a Shoulder Partner. One person will act out a job. The other person will act out how to respectfully talk to that worker. Then, you will switch.**

 STUDENTS DO: Take turns **Role Playing** a worker and respectful interactions.

TEACHER DO: Praise students as they work with their partners on using polite language to interact with workers. Once the activity ends you can choose to acknowledge great examples of respectful interactions. You can invite partners up to model for the class.

6. TEACHER SAY: **All of the jobs people have in the community are important. Many jobs provide us with goods we need and want. Let's imagine what would happen if a job did not exist. What would happen without butchers? If there were no carpenters? Let's open our books again to the page Jobs Are Important.**

 STUDENTS DO: Find the correct page.

TEACHER SAY: **Look at all of the goods you see in the picture.**
On the count of 3, whisper to me a good you can see.
1-2-3.

 STUDENTS DO: **Whisper** a good they can see on the page.

TEACHER DO: Read the following directions one sentence at a time, pausing to allow students to complete each task.

 READ ALOUD: **Circle the goods that would go away if we did not have a butcher. Draw a box around the goods that would go away if we did not have a seamstress. Mark an X through the goods that would go away if we did not have carpenters.**

 STUDENTS DO: Follow directions to identify goods on the page.

TEACHER SAY: **Wow. What would happen if we did not have certain workers?**

 STUDENTS DO: Volunteer to share what might happen if a job did not exist.

TEACHER DO: Call on student volunteers to share.

TEACHER SAY: **All jobs in our community are important. We should always show respect to those workers. They help us meet our needs and wants.**

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

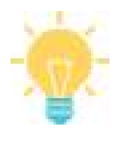
TEACHER SAY: **Today we explored jobs that help make goods and how we can show respect. Can ______ come help lead our closing today?**

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 STUDENTS DO: Share a new idea learned from today's lessons.

Lesson 4 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Describe how people obtain goods. • Describe the importance of having a job in the community.	• Buy • Earn • Cost • Pounds	• **Bell** • Sample Egyptian pounds (real or images) • Chart paper • Student book • Pencils/crayons



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: **Yesterday we explored jobs and how to interact respectfully. Turn to Shoulder Partner and share one way to show respect to workers in our community.**

 STUDENTS DO: Turn and share with a **Shoulder Partner** ways to show respect to worker.

TEACHER SAY: **We have been learning a lot about different goods and stores. Today we will learn how we BUY goods at a store.**

Note to Teacher: If possible, bring in a few examples of real money to show students. Otherwise, use images of money.

2. TEACHER DO: Hang images of money at the front of the room or have samples of money to show students.

TEACHER SAY: **What do I have?**

 STUDENTS DO: Identify money.

TEACHER SAY: **Yes, I have money. Money is important. You have all seen money before. Tell me about your experiences. Let's share places we use money. We will Popcorn around the room to share times we know our families use money. __________ please start. Then call on another student in the class to share next.**

TEACHER DO: Call on a student to start. Allow students to give repetitive answers. Continue until at least 10 students have had an opportunity to share.

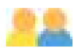
 STUDENTS DO: **Popcorn**, sharing examples of when they or families use money.

TEACHER SAY: **You already know a lot about using money. Can anyone describe what they see happening when a parent buys an item at a store? You walk up to the cashier, and what happens?**

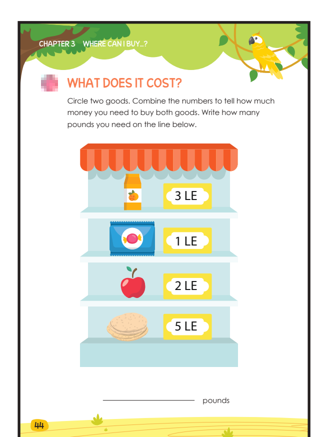
 STUDENTS DO: Describe the interaction to the best of their ability.

3. TEACHER SAY: **You have given many examples of using money. Now, let's learn more. Money is what we use to buy goods to meet our wants and needs. When you buy a good, you**

exchange money for the good. You give the store money, and you take the good you want to buy. But how do you know how much money to give?

 STUDENTS DO: Offer ideas.

TEACHER SAY: **When you go to a store, you can see a price tag on the goods. This tag tells you how much the good costs.**



TEACHER DO: Pass out student books and have students open to the page called What Does It Cost?

TEACHER SAY: **Let's practice reading price tags. Open your books to the page What Does It Cost? You can see goods on a shelf at the store. Everything has a price tag. On the price tag you see a number. What does that number tell you?**

 STUDENTS DO: Offer ideas (how much money the item costs).

TEACHER SAY: **Yes, that number tells you what the good costs. The number tells you how much money you need to give the store so you can buy the good. Look at the goods on the shelf. What costs 5 pounds?**

 STUDENTS DO: Identify the good that costs 5 pounds.

TEACHER SAY: **What costs 2 pounds?**

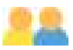
 STUDENTS DO: Identify the good that costs 2 pounds.

TEACHER DO: Repeat the questioning for each item, alternating between asking, "What costs ___ (number)?" and "What does ____ (item) cost?" Extend student thinking by naming two items and asking, "Which item costs more/less?" Also encourage students to justify answers by asking, "How do you know?" This is another opportunity to tie the symbolic representation (numerals on the price tag) to the tangible object, making a concrete and explicit connection for students.

4. TEACHER SAY: **Great job identifying how much the goods cost. Now, let's think about this another way. If I have 5 pounds, what goods could I buy?**

 STUDENTS DO: Identify the goods that cost less than 5 pounds.

TEACHER SAY: **If I had 2 pounds, could I buy candy? How do you know?**

 STUDENTS DO: Think about the cost of the candy and if it is equal to, less than, or more than 2 pounds to determine if they have enough money.

TEACHER SAY: **You have done a wonderful job learning how much each good costs. When we go to a store, we often buy more than 1 item. Let's practice figuring out what 2 GOODS will cost.**

5. TEACHER DO: Hang up a large piece of chart paper at the front of the room. Model this next part with the students.

Note to Teacher: Combining numbers is a new math concept for students. They are not expected to be able to independently complete the work. Allow students to copy your model if needed when they complete the activity in their book.

 READ ALOUD: **Circle 2 goods. Combine the numbers to tell how much money you need to buy both goods. Write how many pounds you need on the line below.**

TEACHER SAY: **Let's pretend we are going shopping. I want to buy ___ (item A) ____ and ___ (item B) ____. Let's find out how much money I need. How much does ___ (item A) ____ cost?**

 STUDENTS DO: Identify the cost of the item the teacher wants to buy.

TEACHER DO: Identify 2 goods from the student page you will buy. Have students identify the

cost of the first item. Write that number on the chart paper. Under that number, draw a picture to represent that number (for example, if the number is 3, draw 3 circles or crosses).

TEACHER SAY: How much does ___ (item B) ___ cost?

 **STUDENTS DO:** Identify the cost of the item the teacher wants to buy.

TEACHER DO: Write the cost of the second item on the chart paper and draw a picture to represent that number.

TEACHER SAY: I want to know how much these 2 goods will cost all together. What do you think I need to do with these 2 numbers I wrote on the board?

TEACHER DO: Provide **Wait Time** before calling on a volunteer to share a response.

 **STUDENTS DO:** Identify that they need to count the numbers together (add).

TEACHER SAY: Yes. If I want to know how much money I need for both goods, I need to ADD the numbers. I will count all the circles I drew. Count with me.

 **STUDENTS DO:** Count the 2 numbers together.

TEACHER SAY: I need _______ pounds to buy these two goods. Now it is your turn. Circle 2 goods you want to buy. Draw circles for how much each good costs. Count the circles all together. Then, write how much money you need on the line at the bottom of the page.

 **STUDENTS DO:** Circle 2 goods on the page and combine the cost.

TEACHER DO: Provide support for students as they apply the concept of addition to a real life scenario. If needed, walk through the steps as a class with students individually choosing two items. For example, say "What does one of your two items cost? Draw that many circles."

6. TEACHER SAY: Money is important in our world. Money helps us buy the goods we need and some goods we want. But how do you think we get money?

TEACHER DO: Provide **Wait Time** before continuing. Use **Calling Sticks** to have students share how we get money.

 **STUDENTS DO:** Offer ideas for how people can earn money.

TEACHER SAY: People earn money by working a job. When a person does a job, he or she is given money. Then, that person can use the money he or she earns to buy goods. We have been talking about jobs. Let's make a list. Who can name a job they remember?

 **STUDENTS DO:** Volunteer to name jobs they remember.

TEACHER DO: Record jobs named by students on chart paper.

TEACHER SAY: Who can name a job that a parent or family member has?

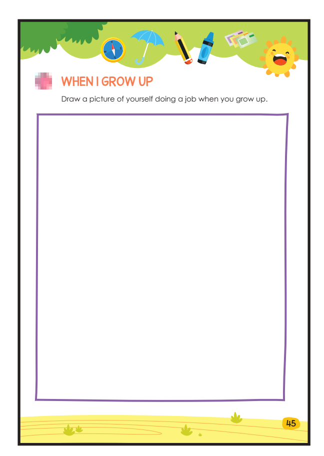
Note to Teacher: Students may not be aware of the name of a job their parents have but might be more familiar with where a parent works. If students name a location (for example, "My mom works at a school."), you can identify the job name ("Yes, your mom works at a school. She is a teacher.").

 **STUDENTS DO:** Name jobs held by parents or family members.

TEACHER DO: Use **Calling Sticks** or call on volunteers to identify more jobs.

TEACHER SAY: We have a long list of jobs. Let's imagine. What job do you want to have when you grow up so you can earn money? Share a job you want to have with a Shoulder Partner.

 **STUDENTS DO:** Share a job with a **Shoulder Partner**.



7. TEACHER DO: Have students open their books to the page called When I Grow Up.

TEACHER SAY: Open your books to the page When I Grow Up. Think about a job you might want to have when you become an adult.

 **READ ALOUD: Draw a picture of yourself doing a job when you grow up.**

 **STUDENTS DO:** Draw a picture of themselves performing a job.

TEACHER DO: As students draw, move around the room having students identify the job they are performing. To extend their thinking, ask students to explain why this job is important in the community and what might happen if no one performed this job. These questions will help connect student thinking to previous learning.

Note to Teacher: If time allows, students can share their drawings with a new **Shoulder Partner** *or by playing* **Shake it Share It High Five**.

8. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today we learned how people use money to buy goods and how people can earn money. Can ______ come help lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 5 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Explain choices people make with money (spending versus saving). • Explain the importance of saving money.	• Spend • Save • Share • Charity	• Chart paper • Student book • Glue • Sparkles • Buttons • Beads • Stickers • Art • Paper

PREPARATION

If possible, invite a local banker to class to talk about the importance of saving money. Adjust the lesson below accordingly to allow for open discussion with a guest.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: Yesterday, we talked about how we buy goods. We compared what items cost. We learned how to use price tags to figure out how much money we need to buy something. Turn to a Shoulder Partner and explain what a price tag is.

 **STUDENTS DO:** Discuss with a **Shoulder Partner**.

TEACHER SAY: We are learning a lot about money and buying goods. Today we are going to learn about making choices. We make choices every day. You may choose what color crayon you use. You may choose what activity you do during recess. Who can name another choice you get to make?

 **STUDENTS DO:** Offer examples.

**TEACHER SAY: Learning to make good choices about money is important.
We spend money on the things we NEED first, because they keep us safe and healthy. Let's review, what are some of the things we need?**

TEACHER DO: Use **Calling Sticks** to review needs.

 **STUDENTS DO:** Respond when called on.

2. TEACHER SAY: It is good to plan before you go to a store. First, you think about how much money you have. Many people also make a list of what they need and want. A list helps us remember the things we need.

TEACHER DO: Hang up chart paper at the front of the room to model creating a list.

TEACHER SAY: Let's practice making a list. Pretend we are going to the grocery store. We will shop for dinner tonight. Share something that could go on our list with a Shoulder Partner.

 **STUDENTS DO:** Share a food item to purchase at a grocery store with a **Shoulder Partner**.

TEACHER DO: Use **Calling Sticks** to have students share food items to go on a shopping list. Model writing the food names in a list. Have students read the words you write as a class.

 **STUDENTS DO:** Name an item to go on a list when called on.

TEACHER SAY: Sometimes we want something extra, like a new toy. We might not have enough money to buy it. We buy the things we need first so we know we have enough to pay for them. Let's think about an example. I have 5 pounds. I need to buy some vegetables to cook for dinner. The vegetables cost 4 pounds. But I also want a new toy that costs 3 pounds. Let's find out if I have enough for both.

TEACHER DO: **Think Aloud** to demonstrate how you would answer this question using addition and comparing numbers (draw circles or other symbols to show 5+3=8, compare the cost, 8, with the money you have, 5). Students do not need to be able to calculate the problem themselves, but they should be able to assist on steps of the problem and follow the overall idea.

 **STUDENTS DO:** Count circles/symbols along with teacher, read the math sentence, compare cost to money available in the story.

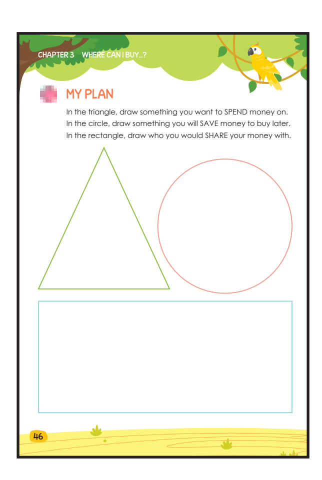
TEACHER SAY: Sometimes we do not have enough money to buy something we want. We might have to wait. We can SAVE our money until we have enough. How do you think you can save money?

TEACHER DO: Use **Popcorn** strategy to identify times they have saved money.

 **STUDENTS DO:** Respond when called on, then call on another student.

TEACHER SAY: Those are some great ideas. We can save money over time for things we might need or want later. We have explored spending and saving our money. Sometimes we also SHARE our money to help someone else. We may want to buy a cookie to share with a friend. We may buy someone a present. Let's think about spending, saving, and sharing.

3. TEACHER DO: Pass out student books.


CHAPTER 3 WHERE CAN I BUY...?

MY PLAN

In the triangle, draw something you want to SPEND money on.
In the circle, draw something you will SAVE money to buy later.
In the rectangle, draw who you would SHARE your money with.

46

TEACHER SAY: Open your student book to the page My Plan. We are going to make a plan. We will use the words, SPEND, SAVE, SHARE. Repeat these words with me as I write them on the chart.

TEACHER DO: Write the words, SPEND, SAVE, SHARE on chart paper. To support visual learners, draw icons that represent each word.

 **STUDENTS DO:** Repeat the words as the teacher writes and points to them.

TEACHER SAY: I will draw a picture under each word to help you remember them. For the word SPEND, I am drawing a picture of ______. What does spend mean?

TEACHER DO: Call on volunteers.

 **STUDENTS DO:** Respond to question.

TEACHER SAY: For the word SAVE, I am drawing a picture of______. What does save mean?

TEACHER DO: Call on volunteers.

 **STUDENTS DO:** Respond to question.

TEACHER SAY: Our next word is SHARE. What does share mean?

TEACHER DO: Call on volunteers.

 **STUDENTS DO:** Respond to question.

TEACHER SAY: What could I draw under share to help us remember?


STUDENTS DO: Offer ideas.

TEACHER DO: Take student ideas, choose one, and draw the final icon.

TEACHER SAY: Let's think about each of these categories. First, think about the things you would like to SPEND money on. Let's Shake It, Share It, High Five to share our ideas.


STUDENTS DO: Students move around the classroom shaking a partner's hand, sharing his/her idea or answer, then high fiving before moving to find a new partner.

TEACHER SAY: Now think about what you would like to SAVE money to buy.
Shake, It Share It, High Five.


STUDENTS DO: Students move around the classroom shaking a partner's hand, sharing his/her idea or answer, then high fiving before moving to find a new partner.

TEACHER SAY: Finally, what is one way you would like to SHARE your money? Shake, It Share It, High Five.


STUDENTS DO: Students move around the classroom shaking a partner's hand, sharing his/her idea or answer, then high fiving before moving to find a new partner.

4. TEACHER SAY: Great work. Please return to your rows. Now we can complete our plan.

TEACHER DO: Read the directions one at a time and provide students time to work in between.


READ ALOUD: In the triangle, draw something you will SPEND money on. In the circle, draw something you will SAVE money to buy later. In the rectangle, draw who you would SHARE your money with.


STUDENTS DO: Complete a visual plan for spending, saving, and sharing.

TEACHER DO: Circulate around the room and encourage students to use the chart visual to help them complete the page. As students finish, ask them to share their page with a **Shoulder Partner**, giving reasons why it is good to do all three.

TEACHER SAY: As you finish, please share your page with a Shoulder Partner.


STUDENTS DO: Share with a **Shoulder Partner**.

Note to Teacher: If available, allow students to use various art supplies such as glue, sparkles, buttons, beads, stickers, art paper and so on for the next activity.



5. TEACHER SAY: Let's turn to the next page, My Labels. You have thought about how you want to SPEND, SAVE, and SHARE your money. Sometimes people put money in jars to store it for different uses. Next, we will create labels for money jars so we can remember the three ways we can use money.


READ ALOUD: Color and decorate the labels.

TEACHER DO: Allow students time to decorate their labels.

Note to Teacher: If students do not receive money as gifts or for treats, adjust the conversation below to suggest drawing more pictures of way to spend, save, and share money to put in the labeled jars at home.

TEACHER SAY: When you get home, ask an adult to help you find three jars, boxes, or cans. Cut out your labels and tape them to your container. When you receive money, put some in each jar. It is important to have a plan to save money.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today we learned about making good choice about money. Can ______ come help lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

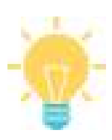
 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 6 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Create a good that meets a need or a want. • Describe the tools needed to produce a good.	• Goods • Needs • Wants	• Various art supplies • Paper slips numbered 1–4 • Four large posters with pictures of goods • **Bell** • Four boxes or large plastic totes for storing projects • Student book

PREPARATION

- Compile various art supplies such as construction paper, yarn, popsicle sticks, glue, paint, tape, markers, recycled plastic containers, material, string, beads, buttons, foil, plastic wrap, toothpicks, cotton balls, cotton swabs, recycled cardboard tubes, ribbon, string, or paper plates. When starting a large art project, you might consider sending a note home with students detailing some of the materials that could be donated to your classroom.
- Cut strips of paper (one for each student) and write a number on each (1–4).
- Number four large pieces of paper and draw or paste pictures of: (1) some healthy foods such as a glass of milk, a salad, a fruit, some meat, (2) some clothing such as pants, shirts, dresses, shoes, (3) toys or sports equipment such as a football, doll, toy car, and (4) dessert, pieces of candy, candy bars.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: Yesterday, we learned three things we can do with money. What is one way we can SHARE our money? Let's Popcorn our answers. I will call on the first person. After they answer, they will call on another person until I say stop.

TEACHER DO: Select one student to start the **Popcorn** strategy. After five or six responses, say STOP.

 **STUDENTS DO:** Share ideas.

TEACHER SAY: Great. There are many ways we can share our money. Sharing helps others. Sharing makes us feel good. We also talked about making good choices about money. Buying what you NEED, before buying something you WANT, is a good choice. Turn to a Shoulder Partner and tell them one need and one want you would like to buy.

 **STUDENTS DO:** Share ideas with a **Shoulder Partner**

TEACHER SAY: Let's have a few people share their needs and wants.

TEACHER DO: Use **Calling Sticks** to have four or five students respond.

 **STUDENTS DO:** Share ideas.

2. TEACHER SAY: Thank you for sharing your ideas. In a few days, we are going to turn our classroom into a market. Today, you are going to create some goods to sell in our class market. We want to create some goods that are needs and some that are wants. Whisper into your hand what a GOOD is.

TEACHER DO: Use the **Whisper** strategy to review goods.

TEACHER SAY: That is correct. Goods are the things we buy.

3. TEACHER DO: Pass out one slip of paper to each student with the numbers 1, 2, 3, or 4 on it. These papers will be used to evenly divide your class into four groups. Use a **Four Corner** strategy for groups to work together. Place or hang the numbered posters in each corner of the room. Designate a central location with various art supplies or divide them up between the corners.

TEACHER SAY: Each of you has been given a slip of paper with a number on it. Read your number. Find the corner of the room that matches your number and go to that corner.

 **STUDENTS DO:** Read the number on the paper, then go to the corner with the number that matches.

TEACHER SAY: Look at the paper hanging on the wall with your number on it. It also has a picture. Talk about the picture in your groups. When I call on your group, tell me what your picture shows.

 **STUDENTS DO:** Look at the picture and discuss as a group what they think the picture represents.

TEACHER SAY: Group number one, what is your picture? (healthy food) Is it a need or a want? (Need) Group number two, what is your picture? (clothing) Is it a need or a want? (Need) Group number three, what is your picture? (a toy or sports equipment) Is it a need or a want? (Want) Group number four, what is your picture? (a dessert or candy) Is it a need or a want? (Want)

 **STUDENTS DO:** Give a choral response with group.

TEACHER DO: Prompt groups to specify answers, for example prompt group number one to recognize that the food in the pictures are healthy. Set up materials for creating in a central location in the classroom. You can also choose to pass out materials to table groups.

Note to Teacher: Students are creating goods on their own, but they may brainstorm and work together as needed.

4. TEACHER SAY: You will use the art supplies located ____ to create a good related to your picture. We will use your goods to sell in our class market. Remember to take only the supplies need. Use your imagination to create your good. In your groups, talk about some ideas you have.

 **STUDENTS DO: Brainstorm** in groups to share ideas for a good they can make.

TEACHER SAY: Group one, repeat after me, "I will make a healthy food." Group two, repeat after me, "I will make an example of clothing." Group three, repeat after me, "I will make a toy or piece of sports equipment." Group four, repeat after me, "I will make a dessert or candy."

 **STUDENTS DO:** Repeat statement after teacher.

TEACHER SAY: I think you are ready to use your imaginations to create your goods. You may begin.

TEACHER DO: As students create their goods, circulate around the room. Prompt students with questions such as, "What good are you making?" "Why are you making that one?" "Do you think it is a need or a want? Why?" "What materials are best to use?"

 **STUDENTS DO:** Create goods using materials provided.

5. TEACHER DO: Embrace the chaos. There might be lots of chatter and excitement in the room. Encourage students to help each other. As the time for creating ends, remind students to care for their classroom as they clean up their areas. **Ring a Bell** to get students' attention.

TEACHER SAY: Thank you for your attention. Before we finish our lesson, let's clean up our work areas. Please return any unused supplies and throw away trash. Then return to your rows.

 **STUDENTS DO:** Clean up and return to rows.

Note to Teacher: Consider ways to store student created materials. A large box or plastic tote for each corner is helpful. Students will help sort the materials in the next lesson for the classroom market. Make sure students label their creation with their name.

6. TEACHER SAY: Let's think about the tools you used to make your goods. I want you to think to yourself for a minute, then pair up with your Shoulder Partner to discuss.

 **STUDENTS DO:** Think and share with **Shoulder Partner**.

TEACHER SAY: Who can share a tool they used today to create their good?

 **STUDENT DO:** Volunteer to share a good used today.

TEACHER DO: Call on student volunteers. Prompt the class to stand up if they used the tool named by a student. Tools should include: scissors, crayons/markers/pencils, glue, and tape. As students name each of these goods, identify ways workers use those tools as well.

TEACHER SAY: Scissors are an important tool in making goods. When people make our clothes, they need scissors to cut the cloth. What job have we learned about that makes clothes?

 **STUDENTS DO:** Call out seamstress or tailor.

TEACHER SAY: Workers need to use pencils. People who create new toys and sports equipment draw their designs first. Glue and tape help put materials together. Many goods use glue to hold parts together; toys, sports equipment, and furniture may use glue. What job makes furniture?

 **STUDENTS DO:** Call out carpenter.

TEACHER SAY: Some of us made food items today. Think about the tools a farmer or a cook might use to help make food for us. What are some their tools?

TEACHER DO: Using **Calling Sticks**, select five or six students to give examples of farmer's tools such as tractor, horse and cart, water sprinklers, or pitchfork or cook's tools such as knives, ovens, rolling pin, pots, or pans.

 **STUDENTS DO:** Respond when called on.

7. Closing : Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

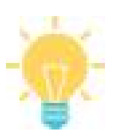
TEACHER SAY: Today we made goods to satisfy some needs and wants. Can ______ come help lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a what they enjoyed. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share what they enjoyed today.

Lesson 7 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Identify and describe technology. • Describe how technology helps in our lives.	• Technology	• Student books • Chart paper • Various art supplies



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: **You did a great job of using tools to create goods yesterday. You were all workers performing a job. Let's quickly review all the jobs we have discussed so far. We will Popcorn around the room, naming a job we remember. _______ please start.**

 STUDENTS DO: **Popcorn** around the room, naming jobs.

2. TEACHER SAY: **Great remembering. We also discussed tools these workers would use to perform their jobs. There is another word for the tools workers use to perform their jobs. Raise your hand if you have ever heard the word TECHNOLOGY. What do you think it means?**

TEACHER DO: Provide **Wait Time** for students before using **Calling Sticks** to have students share what they think technology means.

 STUDENTS DO: Share what they know about the word "technology."

Note to Teacher: Students might name types of technology they know or use instead of defining the word. This is an appropriate way of making associations with new words for this age group. Assist them in drawing connections and provide a definition when appropriate.

TEACHER SAY: **When we hear the word technology, we often think of computers. Technology is not only computers. Technology is any tool designed to make a job easier. Can you repeat the new word and definition with me?**

 STUDENTS DO: Repeat word and definition.

TEACHER SAY: **Yesterday, you used scissors to help create a good to sell. Scissors are a type of technology. What job do scissors help us do?**

 STUDENTS DO: Volunteer to identify the job of scissors.

TEACHER SAY: **Scissors help us cut. Ancient Egyptians developed scissors a long time ago. Someone who makes clothes needs scissors to cut fabric. What other tools would a seamstress need?**

 STUDENTS DO: Volunteer to name other tools to make clothes (needle, thread, scissors).

TEACHER SAY: **Let's all act out sewing clothes with a needle and a thread.**

 STUDENTS DO: Act out sewing.

TEACHER SAY: Phew. That would be hard work to do all our sewing with just a needle and thread. People created a sewing machine to make sewing faster. A sewing machine is also an example of technology.



3. TEACHER DO: Pass out student books and direct students to open to the page Technology Can Help.

TEACHER SAY: Let's learn about technology that helps produce goods we buy every day. Open your books to the page Technology Can Help. On this page you can see simple tools on one side of the page. On the other side you can see newer technology that helps make doing the job easier.

 **READ ALOUD: Draw a line to match a simple tool with a newer technology that helps perform a job.**

Note to Teacher: This page will be teacher guided to help facilitate a discussion about how technology makes a job easier. Students do not need to remember all the technology on the page as vocabulary words but have them repeat each word to become more familiar with it.

TEACHER SAY: Point to the shovel. What worker do you think uses a shovel?

TEACHER DO: Call on a student volunteer. Students could identify a farmer or a builder/construction worker.

 **STUDENTS DO:** Identify a worker who uses a shovel.

TEACHER SAY: A shovel helps dig holes. Let's all act out using a shovel.

 **STUDENTS DO:** Model using a shovel.

TEACHER SAY: Phew. That was hard work. Look at the other side of the page. Who sees a newer technology that could help dig holes? Point to it.

 **STUDENTS DO:** Point to the excavator picture.

TEACHER SAY: Yes. That large machine is called an excavator. That is a big word. Can you say excavator?

 **STUDENTS DO:** Repeat "excavator."

TEACHER SAY: People use an excavator to dig holes and move dirt quickly. Draw a line from the shovel to the excavator.

 **STUDENTS DO:** Draw a line from the shovel to the excavator.

TEACHER DO: Repeat this pattern of conversation to match, asking questions and adding details throughout:

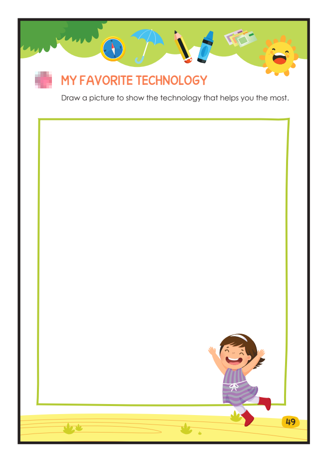
- Screwdriver and drill
- Bowl/spoon and electric mixer

Note to Teacher: If possible, show videos of goods being produced and stop to identify types of technology being used.

4. TEACHER SAY: Technology is anything that is designed to make doing a job easier. What technology do we use every day to make our lives easier?

TEACHER DO: Use **Calling Sticks** to have students identify every day technology they use. Examples could include: dishwashers, hair dryers, cars, bikes, lights, cell phones. Record student ideas on chart paper. Encourage students to think of anything they use to make their lives easier. You can prompt students by asking them questions such as "Do you walk everywhere?" How are you able to get from one place to another quickly?"

 **STUDENTS DO:** Respond with examples of every day technology.



5. TEACHER DO: Turn to the page My Favorite Technology and show students. You may wish to allow students to use various art supplies to enhance their drawings for this activity.

TEACHER SAY: **You all gave great examples of how technology helps in our lives every day. Turn to the page My Favorite Technology.**

 **READ ALOUD:** **Draw a picture to show the technology that helps you the most.**

TEACHER SAY: **After you finish drawing we will get a chance to share.**

 **STUDENTS DO:** Draw a picture to show an often-used technology.

TEACHER DO: As students work, have them explain what they are drawing and how this technology helps in their everyday life.

TEACHER SAY: **Now that we are done drawing, let's share with friends. Some of you might have drawn the same technology. We will use Shake It Share It High Five to help us share.**

TEACHER DO: Engage students in **Shake It Share It High Five**. If time does not allow, you can have students share with a **Shoulder Partner**.

 **STUDENTS DO:** Share drawings with classmates.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: **Today we learned how technology helps us every day. Can ______ come help lead our closing today?**

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 8 Overview

LEARNING OUTCOMES

Students will:

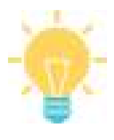
- Create a market in the classroom.
- Sort and label goods in the market.
- Identify jobs to be performed in the market.
- Identify goods to be purchased to meet a want and a need.

KEY VOCABULARY

- Market
- Goods
- Job
- Cashier
- Clerk
- Stocker
- Manager
- Customer
- Receipt

MATERIALS

- Play money
- Scrap paper
- Clipboard
- Pencil/paper
- If available: play cash register (or a box to use as a cash register prop)
- Student book



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: We have been learning so much about how our world works, and how we make and buy goods. For our review today, let's think about the past few days. I need three students to come help me lead.

TEACHER DO: Use **Calling Sticks** to choose three student leaders. Give each leader one question, and have leaders choose two or three students to answer each question.

- What have you learned about how goods are made?
- What have you learned about how we buy goods?
- What have you learned about how we use money?

TEACHER SAY: You did a great job creating goods for classmates' wants and needs a couple days ago. Remember we made clothing, healthy foods, toys and sports equipment, and desserts and candies. Today we are going to sort those goods for our classroom market.

2. TEACHER DO: Pass out student books.



TEACHER SAY: Open your student books to the page, Sorting.



READ ALOUD: Write the letter N or W under each picture to identify it as a NEED or WANT.



STUDENTS DO: Identify pictures of needs and wants with the correct letter.

TEACHER SAY: Look at your books. All the pictures of healthy foods have a letter N. All the pictures of desserts or candies have a letter W. All the pictures of clothes have the letter N. All the pictures of toys or sports equipment have the letter W. Let's think for a minute about where we would buy these items.

TEACHER DO: Allow students appropriate **Wait Time** to reflect.

STUDENTS DO: Think about places to buy healthy foods, desserts and candies, clothes and toys, or sports equipment.

TEACHER DO: Facilitate a conversation about where the various goods can be purchased, using specific or generic examples of local stores. For example, healthy foods and desserts or candies can be bought in a large grocery store or at fruit stands, pastry stores, or a collective market depending on the community.

3. TEACHER SAY: Now let's think about the jobs we see in stores. Different stores need people to do different jobs. Share with a Shoulder Partner a job you think you might see at a store.

 **STUDENTS DO:** Share thoughts with a **Shoulder Partner**.

TEACHER DO: Using **Calling Sticks**, ask four or five students to share.

 **STUDENTS DO:** Share ideas with the class.



TEACHER SAY: Thank you for sharing your ideas. When our classroom becomes a market, you will each need to work at the market. Let's learn more about the jobs we can do. Turn to the page Jobs in a Market in your student books.

 **READ ALOUD: Study the pictures below. What job does each show?**

TEACHER SAY: I am going to describe a picture on the page. See if you can find and point to the right picture.

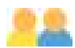
TEACHER DO: Read the descriptions provided below, allowing **Wait Time** in the middle for students to find the corresponding picture and point to it. Scan the room to make sure students are pointing to the correct picture or have them check their choice with a **Shoulder Partner** each time.

 **STUDENTS DO:** Listen carefully and place finger on correct picture.

TEACHER SAY: In a market or shop, we can see a cashier. They handle the money. The tool they use is called a cash register. Everyone say "cashier" with me. Then, stand up if you would like to be a cashier in our class market.

 **STUDENTS DO:** Repeat "cashier." Stand to show interest in being a cashier.

TEACHER SAY: You may be seated. A clerk can help you find what you are looking for in a store or market. Clerks can also help make suggestions to you. Clerks are very helpful and friendly. Everyone say "clerk" with me. Who would like to be a clerk in our class market? Please stand.

 **STUDENTS DO:** Repeat "clerk." Stand to show interest in being a clerk.

TEACHER SAY: You may be seated. A stocker is the person who opens all the boxes and put the goods on shelves for you to buy. A stocker is strong and does a lot of heavy lifting. Everyone say "stocker" with me. Who would like to be a stocker in our class market? Please stand.

 **STUDENTS DO:** Repeat "stocker." Stand to show interest in being a stocker.

TEACHER SAY: You may be seated. Finally, a manager is a person who makes sure that everyone is doing their job correctly. If there is a problem, a manager tries to solve the problem. Everyone say "manager" with me. If you would like to be a manager in our class market, please stand.

 **STUDENTS DO:** Repeat "manager." Stand to show interest in being a manager.

TEACHER SAY: You may be seated.

Note to Teacher: You may want to take notes as students stand for their preference in class jobs, or you may decide to randomly assign jobs by rows.

4. TEACHER SAY: Let's Role Play it would be like to have each of these jobs. A customer is the person who is buying something. Everyone say "customer" with me.

 **STUDENTS DO:** Repeat the word "customer."

TEACHER DO: Using **Calling Sticks**, call two students at a time to role play the following scenarios. If you have play money, a toy cash register, scrap paper (to use as receipts), empty boxes, or a clipboard and pencil, have them available for role playing.

TEACHER SAY: I will provide directions for you to act out. A cashier might say, "That will be 5 pounds, please." The customer would then hand the cashier money. The cashier would count the money, "1, 2, 3, 4, 5" and say "Thank you" to the customer. Next the cashier will give the customer a receipt. A receipt is a piece of paper that says how much something cost and how much money you gave the cashier. The customer would say, "Thank you" to the cashier and take their item and leave.

 **STUDENTS DO:** Selected students follow teacher directions to role play.

TEACHER SAY: Everyone, turn to a Shoulder Partner and take turns role playing a cashier and a customer.

 **STUDENTS DO:** Take turns role playing cashier and customer.

TEACHER DO: Provide verbal cues or reminders of the interaction as students **Role Play**. Invite two more students up to demonstrate the next conversation based on your directions.

TEACHER SAY: Let's Role Play a clerk and a customer next. A customer might say, "Excuse me, I need some help." The clerk would say, "How can I help you?" The customer would say, "I am looking for a special toy for my child who is five years old. What do you have?" The clerk would say, "Come over here, let me show you something." Everyone, turn to a Shoulder Partner and take turns role playing a clerk and a customer.

 **STUDENTS DO:** Take turns role playing clerk and customer.

TEACHER DO: Provide verbal cues or reminders of the interaction as students **Role Play**. Invite two more students up to demonstrate the next conversation based on your directions.

TEACHER SAY: Let's role play a stocker and a manager next. A manager might look at their clipboard and say, "Please unpack those boxes onto these shelves." The stocker might say, "Yes, I can do that right away." The manager might come back to check their work and say, "Thank you, you did a great job unloading all those boxes. I like how neat and tidy the shelf looks." Everyone, turn to a Shoulder Partner and take turns role playing a stocker and a manager.

 **STUDENTS DO:** Take turns role playing stocker and manager.

TEACHER SAY: You did a wonderful job role-playing, tomorrow you will be given a job and we will practice in our class market. If you go to a shop today after school, look for people doing the jobs we talked about today.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today we learned about jobs in a market. Can ______ come help lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share what they enjoyed about today. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share what they enjoyed during the lesson.

Lesson 9 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Role play in a classroom market. • Make choices based on wants and needs.	• Customer • Receipt	• Badges for students to wear with the titles, Clerk, Cashier, Manager, Stocker made from index cards, and yarn or string. • Create a poster for each market area with the following: Healthy foods–2 pounds, Clothing–3 pounds, Toys or Sports Equipment–4 pounds, and Desserts or Candy–5 pounds. Include a picture with the words. • Play money (enough for half of the class to have ten, one-pound notes each). • Scrap paper to use as receipts. • (optional) Play cash registers (or boxes made to look like a cash register), aprons (for stockers), clipboards (for managers), buttons that say, “How may I help you?” (for clerks). • Sacks or baskets for customers to place purchased objects in. • Student book

PREPARATION

- If possible, invite parents or other community members to class to explore the market with students.
- Set up several areas in the classroom as market spaces. Create badges using index cards or small pieces of carboard and yarn or strings. In addition to the titles (Cashier, Clerk, Stocker, and Manager), include a picture icon that represents each job.
- Set out boxes of goods that were created by the students.
- Arrange a table in a central location with any available props such as clipboards, aprons, bags, and buttons.
- Hang posters with the prices and pictures of items in each area.



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today’s lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: **Yesterday, we learned about different jobs in a market. Today, we will act out those roles as we purchase things we want and need.**

2. TEACHER DO: Pass out student books.



TEACHER SAY: **Please open your student book to the page Shopping List.**

 STUDENTS DO: Open student books to page titled Shopping List.

TEACHER SAY: **Everyone will have the chance to be a shopper and a worker in the market. Raise your hand if you have ever seen an adult in your family make a list before they go shopping.**

 STUDENTS DO: Raise hands.

TEACHER SAY: **Why do you think adults make lists before shopping?**

TEACHER DO: Use **Calling Sticks** to have three or four students respond to the question. (Possible answers: So they do not forget things, so they think about how much money they have, or so they only buy those things).

 STUDENTS DO: Share ideas when called on.

3. TEACHER SAY: **Let’s plan what we need and what we want. You have 10 pounds to spend. You must buy at least one thing you need and one thing you want.**


READ ALOUD: Circle one thing you need and one thing you want.


STUDENTS DO: Circle needs and wants.

**TEACHER SAY: Healthy foods cost 2 pounds. Clothing costs 3 pounds.
Toys and Sports Equipment cost 4 pounds. Desserts and Candies cost 5 pounds.**


READ ALOUD: Write the cost of your items on the spaces below.

TEACHER SAY: If I buy a new shirt, I would write 3 in the first line. If I buy a toy car, I would write 4 in the next line. If I add them together, I would write 7 in the last line.

Note to Teacher: Students may need additional help both making choices and adding the costs together. If you choose, you may want to use one example for the entire class. Remember to go back and connect the numbers (prices) with the objects to reinforce the concrete nature of mathematical symbols representing real life scenarios. Also, it is not important that the prices shown are not realistic for the actual costs of the items, this activity is used to illustrate making choices, creating simple mathematical sentences and adding numbers within 10.


STUDENTS DO: Fill in the spaces under purchase choices.

TEACHER DO: Circulate around the room to be sure students are completing their number sentences correctly.

4. TEACHER SAY: It is time to go to market.

Note to Teacher: Determine roles for each student based on preferences noted in the previous lesson, or randomly assign roles.

TEACHER DO: Divide class in half and pass out badges with roles to half of the class. The other half of the class will be the shoppers in the first round. Call each row, one-by-one, to pick up props. Students playing a market job will pick up their props from the central location. Students playing the role of a shopper pick up a bag or basket for their purchases. The students will **Role Play** either a market job or the role of a shopper for a designated time period, then switch roles. Use a **Bell** to gain student attention when it is time to switch.

TEACHER SAY: When I call your row, please pick up your props (specify based on what is available).

TEACHER DO: Hold up each item as you name it.


STUDENTS DO: Pick up props and return to rows.

TEACHER SAY: If you have a job in the market, please go to the market area now. I will remind you of your roles. Listen carefully when you hear your role called.

Cashiers, write the number of pounds a shopper gives you on their receipt. For example, if a shopper gives you 2 pounds, write the number 2 on their receipt and give it to them.

Stockers, you will take items out of the boxes carefully and place them on the tables or floor areas.

Clerks, put on your smiles and get ready to help shoppers find the things they need or want. Managers, you need to solve any problems and make sure that everyone is working.


STUDENTS DO: Half of the class takes their props and goes to the market areas.

5. TEACHER SAY: Shoppers, please stand. Be sure you have your money, your basket (or sack), and your list. Shoppers, count your money out loud when you give it to the cashier. Put your receipt and your purchased item in your sack. The market is now open, shoppers you may shop until you hear the bell.


STUDENTS DO: Shoppers go through the market and select items, count their money, and keep a receipt.

TEACHER DO: Circulate around the room helping students when needed. Embrace the noise and confusion. Markets are often busy places. If you invited other adults to help today, they can circulate or stay in a market area and help. Regain student attention using a **Bell Signal** when it is time to switch roles.

TEACHER SAY: Thank you for your attention when I rang the bell. Please place your props back on the table and return to your rows. Please hand me your badge if you worked in the market. We will now switch roles.

TEACHER DO: Pass out badges to second half of the students.

TEACHER SAY: When I call your row, please pick up an apron if you are a stocker, a button if you are a clerk, a clipboard if you are a manager, and a sack or basket and a bundle of money if you are a shopper.

TEACHER DO: Hold up each item as you name it.

 **STUDENTS DO:** Pick up props and return to rows.

TEACHER SAY: If you have a job in the market, please go to the market area now. If you are a cashier, who remembers your job?

 **STUDENTS DO:** Describe how to write the number of pounds a shopper gives you on a receipt.

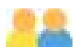
TEACHER SAY: If you are a stocker, who remembers your job?

 **STUDENTS DO:** Describe how to take items out of boxes.

TEACHER SAY: If you a clerk, what will your job be?

 **STUDENTS DO:** Describe how to help shoppers find the things they need or want?

TEACHER SAY: If you are a manager, what will your job be?

 **STUDENTS DO:** Describe how to help shoppers solve problems.

TEACHER SAY: Market workers, you may move to your stations.

 **STUDENTS DO:** Half of the class takes their props and goes to the market areas.

6. TEACHER SAY: Shoppers, please stand. Be sure you have your money, your basket or sack, and your list. When you select an item, write the number of pounds it costs next to the item on your list. Shoppers, count out your money out loud when you give it to the cashier. Be sure you save your receipts. The market is now open. Shoppers, you may shop until you hear the bell or run out of money.

 **STUDENTS DO:** Shoppers go through the market and select items, count their money, and keep a receipt.

TEACHER DO: Circulate around the room helping students when needed. If you invited other adults to help today, they can circulate or stay in a market area and help. Regain student attention using a **Bell Signal**.

TEACHER SAY: Thank you for your attention when I rang the bell. Place your props back on the table and return to your rows. Please hand me your badge if your worked in the market. (If you had adult helpers, have the students thank them for coming in and helping today.)

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today we practiced jobs and shopping for needs and wants in a market. Can ______ come help lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share something they will talk about with their families at home. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share something from today's lessons that you will talk about with your families at home.

Lesson 10 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Provide advice to a student about what to expect and how to act in a market place.	• Market • Roles • Needs • Wants	• **Bell** • Map of the United States showing the state of Texas (optional) • Scissors, if available • Art supplies such as markers, crayons, yarn, material scraps, glue, and buttons • Student book



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

Note to Teacher: Today is the final day of the lesson, so the opening is a bit different. You may wish to repeat the typical class opening with students leading reflection from the day prior, or you may proceed as outlined.

2. TEACHER SAY: **I received this letter today (hold up a paper). Let me read it to you.**

Dear ________,

A friend said your class learned about going to a market. You pretended to be shoppers and market workers. My friend tells me they behaved politely and made good choices. I heard they even made lists of things they needed and wanted. Is it true that they used math to find how much money they needed? I wonder if your students could help my students learn more about markets. Do you think they could make a puppet show about going to market? Maybe you could record their puppet show and post it online for us to see.

Your friend,
Mrs. Smith, Teacher
Houston, Texas, USA

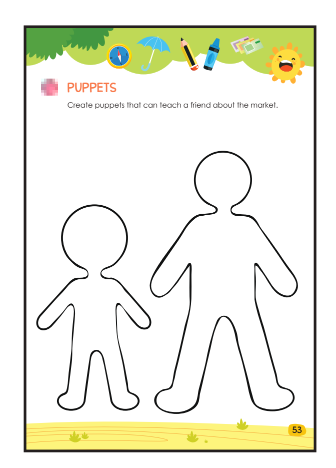
Note to Teacher: You may wish to read the fictional letter more than one time to ensure students comprehend the request.

TEACHER SAY: **Wow, it sounds like they really need our help. Turn to a Shoulder Partner and share some ideas you have about making a puppet show to help our friend.**

 STUDENTS DO: Share ideas about a puppet show with their **Shoulder Partner**.

3. TEACHER DO: Pass out student books.

TEACHER SAY: **Please open your student books to the pages, Puppets. We actually have two pages for the puppets because you will probably need more puppets to represent all of the people who work in a store selling goods.**



 READ ALOUD: **Create puppets that can teach a friend about the market.**

TEACHER SAY: **In your rows, you will create a puppet show to tell about the jobs in a market,**

how to behave in the market, how to make lists, and how to use money. Take a minute and Brainstorm some ideas in your rows.

 **STUDENTS DO: Brainstorm** ideas.

TEACHER DO: Circulate around the room and remind students of ideas they can include such as jobs, how to behave, how to make lists, and how to use money.

TEACHER SAY: Let's share some of our ideas.

TEACHER DO: Use **Calling Sticks** to have students share ideas that they want to include in the puppet show. Students should mention: polite behavior, counting pounds to pay for goods, choosing goods based on needs and wants, and jobs in the marketplace.

Note to Teacher: You can choose to record student ideas on a chart paper if you think they might need reminders as they plan a puppet show. Support students as needed in creating a puppet show. If students are able, allow them to approach the show like open **Role Play***, reminding them that they are also teaching the audience what they have learned. If more support is needed, walk them through choosing a topic, deciding on characters and dialogue, what they want to teach, and so on.*

TEACHER SAY: You may use the art supplies that I have placed _______. When I ring the Bell, please be ready to share your puppet show.

 **4. STUDENTS DO:** Collaboratively work with their rows to create a puppet show about going to market.

Note to Teacher: Puppets can be cut out and placed on the end of pencils if scissors are available. If possible, incorporate technology by recording or taking pictures of the student puppet shows.

TEACHER DO: Circulate around the room to assist students if needed. Encourage students to look at their student books to remember what they learned in this chapter. Allow enough time for students to practice their puppet show. Ring **Bell** for student attention as students finish.

5. TEACHER SAY: Thank you for looking at me when you heard the bell. When I call your row, you will share your puppet show with the class.

 **STUDENTS DO:** Share puppet shows with the class.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Thank you for helping other students learn more about going to markets. We have been learning about how the world works. In the On A Roll chapter, we investigated how things move. During Shade for a Beetle, we examined the warmth of the sun and materials and tools used in building. Finally, in this chapter, we learned about markets and money. Turn to your Shoulder Partner and share something you enjoyed in this theme.

 **STUDENTS DO:** Share thoughts with a **Shoulder Partner**.

KINDERGARTEN I

Multidisciplinary

COMMUNICATION

Chapter 1: Paper Garden

Theme Overview

Paper Garden

COMPONENT	DESCRIPTION	LESSONS
Discover	Students classify living things into plants and animals and ask questions about plants. Students test conditions for growing as they identify plant needs and sing about plant parts. Students also describe plants using color and shape words.	3
Learn	Students answer questions about plants using images and books. Students complete observational drawings while practicing speaking and listening skills. Students create bar graphs from original data and use color and shapes to create a plant model (collage).	5
Share	Students make observations about famous works of art and create and share original artwork.	2

Connection to Issues



Citizenship: We belong to a family. We each have a role in our country.

Environmental Issues: We care about the earth. We are part of a community that sustains the environment.

Communication

DIMENSION	DESCRIPTION
Learn to Know	**Critical Thinking:** • Differentiate between similarities and differences. **Creativity:** • Flexibility in generating a diversity of ideas that are not typically expected, and be able to readjust when the situation changes. • Originality in generating new and unique ideas. **Problem Solving:** • Identify the problem.
Learn to Do	**Collaboration:** • Abide by common rules of the team. **Negotiation:** • Good listening.
Learn to Live Together	**Respect for diversity:** • Respect the opinions of others. **Empathy:** • Help others. **Sharing:** • Awareness of roles.
Learn to Be	**Self-management:** • Set clear goals. **Communication:** • Good listening. • Self-expression.

Learning Indicators

Throughout this chapter, students will work toward the following learning indicators:

READING:

Foundational Skills: Print Concepts

- With support, demonstrate an awareness of spoken words, syllables, letter sound relationships.

Reading Comprehension: Nonfiction

- Answer questions about key details in text with modeling and support.

Language: Vocabulary Acquisition and Use

- Understand and use question words.
- Use words and phrases acquired through conversation, reading, and being read to.

WRITING:

Foundational Skills

- Write letters (tracing, imitating, and independently).

Process, Production and Research

- Orally produce complete sentences in shared language activities.

SPEAKING AND LISTENING:

Foundational Skills

- Use appropriate vocabulary, gestures, facial expressions, and body language for the situation.
- Participate in collaborative conversations with diverse partners about topics and texts with peers and adults.
- Describe people, places and things, and events with relevant details and provide additional detail with prompting and support.
- Express thoughts, feelings, and ideas clearly.

Fluency

- Orally produce complete sentences when appropriate to task and situation.
- Use singular and plural proper and common nouns with matching verbs in basic sentences.

MATH:

Counting and Cardinality

- Count by ones up to 10.
- Read and write numerals 1 to 10.
- Represent a number (0-5) by producing a set of objects.

Operations and Algebraic Thinking

- Represent addition and subtraction with objects, fingers, mental images, drawings, sounds, acting out situations, or verbal explanations, expressions, or equations.

Measurement

- Collect and classify data using objects and drawings (up to 10).
- Classify objects into given categories (for example by length, weight, size, color) and sort categories by count.

Geometry

- Describe objects in environment using names of shapes.
- Correctly use terms such as above, below, beside, in front of, behind, next to.
- Correctly name 2-dimensional shapes (triangle, circle, rectangle, square).

SCIENCES:

Skills and Processes

- Raise questions about the world around them.
- Seek answers to some of their questions by making careful observations, using 5 senses, and trying things out.
- Design and make things with simple tools and a variety of materials.

Life Sciences

- Classify living and non-living things.
- Recognize that there are different kinds of living things in different places.

SOCIAL STUDIES:

Economics and History

- Communicate effectively with others.
- Communicate politely with others, using vocabulary such as please and thank you.

ART:

Drawing and Coloring

Using Materials to Create Art

- Use simple art materials to create a scene from the surrounding environment.

Sculpting

Expressing Self Through Sculpture

- Create shapes using a variety of sculpting materials (e.g., paper, ceramics, clay, dough).

Developing Imagination

- Create artwork from own imagination.

Applied Arts and Handicrafts (Artworks)

Using Materials from the Surrounding Environment

- Identify materials from the surrounding environment that could be used to create art (e.g., beads, dried plants, bottles, fabric).
- Decorate classroom with artworks they create.

MUSIC:

Singing Meaningful Songs

- Sing the national anthem and theme-related songs with others.

Demonstrate Appropriate Behaviors in Music

- Participate in group singing.
- Respect the performance of others in singing.

LIBRARY:

Types of Media in the Library

- View digital resources related to the theme.

CH 1 Pacing Guide

LESSON	INSTRUCTIONAL FOCUS
1	DISCOVER: **Students will:** • Classify living things into plants and animals. • Identify questions about plants (**Know-Wonder-Learn**). • Analyze images of plants.
2	DISCOVER: **Students will:** • Describe the needs of plants. • Discover conditions in two habitats. • Design an experiment to determine the best growing conditions for a seed.
3	DISCOVER: **Students will:** • Sing a song about plant parts. • Sort plant parts. • Describe parts of a plant using color and shape words.
4	LEARN: **Students will:** • Use images, books, or digital resources to answer plant/flower related questions.
5	LEARN: **Students will:** • Describe images using color, shape, and plant vocabulary. • Listen carefully to complete a drawing based on oral description.
6	LEARN: **Students will:** • Create drawing of a flower using colors and shapes. • Orally describe drawing to a partner, using color, shape, and number vocabulary. • Listen and draw based on an oral description.
7	LEARN: **Students will:** • Create observational drawing of plants as a class, using appropriate shapes and colors.
8	LEARN: **Students will:** • Use data collected from growing seeds to create a bar graph. • Create a plant model using shapes (collage).
9	SHARE: **Students will:** • Make observations about works of art. • Use a variety of materials to replicate a favorite plant or flower or garden scene.
10	SHARE: **Students will:** • Describe artwork using numbers, colors, and shapes. • Provide feedback to other students.

Materials Used

Student book

Pencils

Crayons

Bell

Chart paper

Markers

Seeds

Soil and sand

Clear plastic cups (small)

Spoons

Extra paper

Books or videos on plants

Real or silk flowers or plants (optional)

Glue

Scissors

Various art materials

Art books from library if possible

Colorful paper

Lesson 1 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Classify living things into plants and animals. • Identify questions about plants (**Know-Wonder-Learn**). • Analyze images of plants.	• Living • Nonliving • Plants (optional)	• Chart paper for **Know-Wonder-Learn** • Student book • Pencils • Crayons



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

This is a time to excite your students about the chapter. Tell them they are beginning a theme of study called, "Communication." The first chapter is called "Paper Garden."

TEACHER SAY: We are starting a theme of study called "Communication." What do you think we might learn?

TEACHER DO: Use **Calling Sticks** to choose three students to answer question before continuing.

 **STUDENTS DO:** Predict what they will learn.

TEACHER SAY: You will be using what you have learned this year about yourself and the world around you.We will be using words, numbers, and art to communicate what we know. Our first chapter is called "Paper Garden." We will design an artistic garden. We will think about how we communicate as we learn.

2. TEACHER DO: Pass out student books and pencils.

TEACHER SAY: Some of this chapter is going to be reviewing what we know. Reviewing what we already know will help us learn more. Let's start with reviewing living things. Living things have needs to help them grow and stay alive. Let's Popcorn around the room to see what you remember. Can you name a living thing?

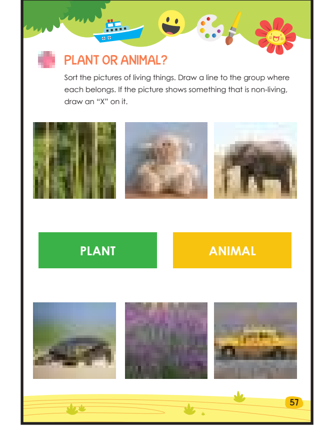
TEACHER DO: Provide **Think Time** before selecting a student to begin **Popcorn**.

 **STUDENTS DO: Popcorn** around the room, sharing examples of living things.

TEACHER DO: Repeat the living things students identify as needed to ensure the whole class can hear. Periodically ask "How do you know that is living?" Also periodically ask a second student if they agree with a suggestion from a student—for both correct and incorrect answers. Clarify any misconceptions about living things.

Note to Teacher: Use this activity to assess how much students remember about living things. Extend the review as needed based on student knowledge.

3. TEACHER SAY: Many living things are either a plant or an animal. Let's see if we can tell the difference between plants and animals. Understanding if something is a plant or animal will help us understand how to care for it. Open your books to the page called Plant or Animal?




READ ALOUD: **Sort the pictures of living things. Draw a line to the group where each belongs.**

TEACHER SAY: **Look at the pictures on the page. If the picture shows a plant, you will draw a line to this box that says "plant." If the pictures show an animal, which box will you draw a line to? Point to it in your books.**

TEACHER DO: Point to the box labeled plant and check to make sure students are pointing to the box labeled "animal" when asked.

TEACHER SAY: **Not all of the pictures show a living thing.**


READ ALOUD: **If the picture shows something that is non-living, draw an X on it.**


STUDENTS DO: Sort the images by plant or animal, drawing an X on the pictures that show a non-living object.

TEACHER DO: Monitor students as they work. Ask students to explain why they placed an X on specific pictures. Ask students specifically to explain their answer for the toy animal. Drawing an X or drawing a line to the "animal" box could both be right, depending on whether the student focuses on the fact that the picture shows a toy (non-living) or the animal that the toy depicts.

TEACHER SAY: **Now, turn to a Shoulder Partner to explain how you sorted. Make sure to tell your partner how you knew something was an animal or a plant or non-living.**


STUDENTS DO: Share sort with a **Shoulder Partner**.

TEACHER DO: Attend to students who may have had difficulty completing the sort, or partners who disagree on answers.

4. TEACHER DO: Create a **Know-Wonder-Learn** chart and hang it at the front of the room.

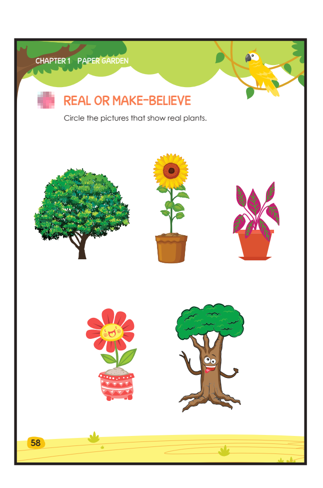
TEACHER SAY: **Great job recalling what we have learned about living things.**
In this chapter we are going to focus on plants. We have already learned a lot about plants, but we have so much more to discover and learn. Are you ready to be plant explorers this chapter? We will start by reviewing what we know about plants. Let's Shake It Share It High Five to help us share with our friends what we know about plants.

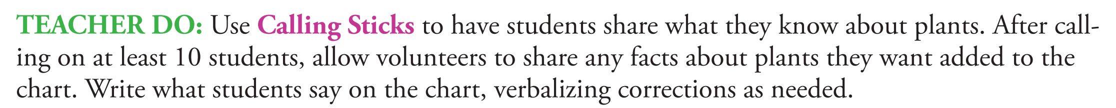
TEACHER DO: Lead students in sharing what they know about plants using the strategy **Shake It Share It High Five**.


STUDENTS DO: Share prior knowledge about plants.

TEACHER DO: Listen to student discussions to assess what students remember. Bring the class back together.

TEACHER SAY: **I want to record what we already know on our Know-Wonder-Learn. I will call on friends to share what they know.**




TEACHER DO: Use **Calling Sticks** to have students share what they know about plants. After calling on at least 10 students, allow volunteers to share any facts about plants they want added to the chart. Write what students say on the chart, verbalizing corrections as needed.


STUDENTS DO: State what they know about plants when called on.

5. TEACHER SAY: **You already know so much about plants. Let's use what we know to be detectives. Turn to the page called Real or Make Believe in your student books. Use what you know about plants to find the pictures that show REAL plants.**


READ ALOUD: **Circle the pictures that show real plants.**

TEACHER SAY: **As you work, think about how know the picture is showing a real plant. We will share what we discovered when we finish.**

 STUDENTS DO: Circle the images that show a real plant.

TEACHER DO: Move around as students work, observing what pictures students circle. Have students explain how they know one picture is showing a real plant and another picture is not real.

TEACHER DO: Bring students back together using an Attention Getting Signal.

TEACHER SAY: **Let's see if we all agree. Let's share the pictures we circled and explain how we know they are real. One way we communicate in class is with hand signals. Find the first picture on the page.**

TEACHER DO: Point to the first picture.

TEACHER SAY: **If you think this picture is of a real plant, show me a Thumbs Up. If you think it is make-believe, show me a thumbs down. You are communicating—giving me information—with your hand signals.**

 STUDENTS DO: Show Thumbs Up or thumbs down.

TEACHER SAY: **Yes, that plant is __________. We also communicate using words. We can explain our thinking. What clues did you see in the picture that told you the plant was ______?**

 STUDENTS DO: Volunteer to share how they knew the answer.

TEACHER DO: Repeat the question for each image on the page. Use ordinal numbers to refer to each image on the page. Prompt students to provide evidence (clues) from the images to support whether it is real or make believe. Examples could be: plants have a stem and leaves, a plant does not have eyes and a nose, a plant grows in the ground.

6. TEACHER SAY: **Thank you for supporting your answer with clues from the picture. We really do know a lot about plants and parts of plants. What else do you want to know about plants? We can communicate through questions. Let's think silently about the questions we still have.**

TEACHER DO: Provide students Think Time to form questions about plants, then continue the conversation with an example.

TEACHER SAY: **Sometimes I see plants hanging outside of doors or windows. One question I have is "Do all plants need to grow in the ground?" I will write that question on our Know-Wonder-Learn. We can communicate by writing. Who would like to volunteer to share a question?**

 STUDENTS DO: Volunteer to share a question about plants.

TEACHER DO: **Write your suggested question on the Know-Wonder-Learn and take volunteers to share other questions. If students are unable to come up with a variety of questions, suggest questions to extend what they already know. For example, students know that plants can have flowers so suggest a question like, "Do all plants have flowers?" Other questions could include "Are all plant stems (or leaves) green?" "Do all roots look the same?"**

TEACHER SAY: **Thank you for helping to fill out two parts of our Know-Wonder-Learn. We will use the chart later as we begin learning even more about plants.**

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: **Today we sorted plants and animals and used what we know about plants to help us identify real and make-believe plant pictures. Can ______ come help lead our closing today?**

TEACHER DO: Call up a student to lead closing.

TEACHER SAY: We will discuss two questions to think about our lesson today. The first is: What are the different ways we communicated in class today?

 **STUDENTS DO:** Call on three students to name types of communication (leader).

TEACHER SAY: We communicated in many ways. We used hand signals, we spoke, and we wrote. We asked questions and explained our thinking. Our second question is: What new ideas did you learn today?

 **STUDENTS DO:** Call on three more students to share new ideas learned (leader).

TEACHER DO: You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on volunteers.

Lesson 2 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Describe the needs of plants. • Discover conditions in two habitats. • Design an experiment to determine the best growing conditions for a seed.	• Habitat • Desert • Forest • Prediction	• Seeds (choose a fast-growing seed such as a bean, pea, or radish) • Soil and sand • Two clear plastic cups or containers for growing seeds (or two cups per group) • Spoon(s) to fill cups • Water • Permanent marker (or tape and pens for labeling cups)

PREPARATION

If possible, gather materials for small groups of students to each plant seeds in two cups for an experiment. If this is not feasible, plan to plant seeds as a demonstration for the class. Identify a space in the classroom (ideally near a window) to store the plant cups where students can see them throughout the chapter. In Lesson 7, students will be drawing a close observation of a plant. Use the visible shoots from seeds planted today if small groups plant seeds. If today's lesson is a demonstration, you may want to send home a letter requesting donations of real or silk flowers for Lesson 7. Some stores may also donate flowers that are a little past their prime. Ideally, collect enough flowers to distribute to small groups or rows around the room. If you do not have access to real or silk plants, you can project a digital image or pass out pictures of real plants for students to observe.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: **Yesterday we listed what we KNOW and what we WONDER about plants. Who can share something they know about plants?**

TEACHER DO: Use **Calling Sticks** to have three or four students share prior knowledge about plants.

 STUDENTS DO: Share prior knowledge about plants.

2. TEACHER SAY: **You remember a lot about plants. Remember that earlier in the year we learned plants have different parts to help them survive in different environments. Let's review: How does a cactus adapt to living in the desert? We often communicate as a whole class. We can also communicate to one person. Share with a Shoulder Partner how a cactus survives in the desert.**

 STUDENTS DO: Share ideas with a **Shoulder Partner**.

TEACHER DO: Use **Calling Sticks** to select two or three students to respond.

 STUDENTS DO: Share ideas with the class.

TEACHER SAY: **Let's think about the environment we live in. Who can describe our environment using words to communicate? Is it hot or cold? Sunny or shady? Wet or dry?**

 **STUDENTS DO:** Volunteer to share about the local environment.

TEACHER DO: As students share, based on their background knowledge, point out characteristics of your local area.

TEACHER SAY: **Now, can you communicate any of those same ideas without words? Let's act out "It is hot here" without saying anything.**

 **STUDENTS DO:** Act like it is hot.

TEACHER DO: Repeat the request to act using other appropriate local descriptions such as sunny or rainy.

TEACHER SAY: **We can communicate a lot through our movements. Let's return to thinking about our environment. There are many different environments in Egypt. We know we can find a lot of desert habitats. How would you describe a desert? Turn to your Shoulder Partner and describe a desert using both words and movements.**

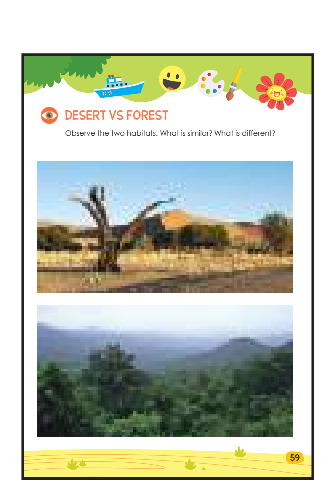
 **STUDENTS DO:** Describe desert habitats.

TEACHER SAY: **Deserts are hot and sunny. Deserts do not get a lot of rain. What part of a desert environment is good for plants? What part might be bad? Turn to a Shoulder Partner to share what you think.**

 **STUDENTS DO:** Share ideas with a **Shoulder Partner**.

TEACHER DO: After providing time to share with a **Shoulder Partner**, use **Calling Sticks** to have students share ideas with the class.

TEACHER SAY: **We know plants need sunlight. Deserts have a lot of sunlight. This is good for plants. We also know plants need water. We also know deserts do not get a lot of water. I wonder if it is easy or hard for a plant to grow in a desert habitat. What do you think?**



3. TEACHER DO: Provide **Wait Time**. Use **Calling Sticks** to have two or three students share ideas. Then pass out student books. Hold up the page called Desert vs. Forest.

TEACHER SAY: **Let's take a look at some plants that grow in a desert and others that grow in a forest. Open your books to the page that looks like this called Desert vs. Forest.**

 **READ ALOUD:** **Observe the two habitats. What is similar? What is different?**

TEACHER SAY: **Point to the picture that shows the desert.**

 **STUDENTS DO:** Point to the desert picture.

TEACHER SAY: **Point to the picture that shows the forest.**

 **STUDENTS DO:** Point to the forest picture.

TEACHER SAY: **I will give you time to quietly look at the pictures first. Then, we will talk about what we notice.**

TEACHER DO: Provide **Think Time**. Then use **Calling Sticks** to engage students in a discussion about the two pictures. Probe students to identify similarities and differences in the plants they can see.

 **STUDENTS DO:** Respond with observations.

Note to Teacher: If available use, digital resources to extend student learning. Show students a short video clip of a scientist observing nature or of forests and a desert environment. This will allow students to experience the environments more fully than a printed image.

4. TEACHER SAY: I wonder where a seed would grow the best. Would the seed grow better in a desert with a little water or in a forest with more water? We can communicate our initial ideas. Turn to your Shoulder Partner to share what you think.

 **STUDENTS DO:** Share ideas.

TEACHER SAY: We can also test our ideas. We will set up an experiment to help us answer our question. We will act like scientists. We will observe seeds to learn more about the world.

Note to Teacher: If possible, plan to have each row create habitats. Materials can be placed on trays for each row. You may choose to pre-measure small amounts of water so that students do not overwater their seeds. Otherwise, use **Calling Sticks** *and select several students to help you set up the two cups as a class demonstration.*

TEACHER SAY: Let's take a minute to think about how we can find an answer to our question.

TEACHER DO: Provide students with **Wait Time**. Then use **Calling Sticks** to invite students to share ideas. Allow students to freely share ideas on how to discover the answer, without correcting experiment ideas that are not practical.

 **STUDENTS DO:** Share ideas on how to test the question.

TEACHER SAY: Wow, you all have amazing ideas. I especially liked ________.

TEACHER DO: Praise two or three ideas that were shared by students.

5. TEACHER SAY: Let's create a mini desert and a mini forest. In each environment we will plant four seeds. We will watch to see which environment is best for the seeds to grow. Here are our materials.

TEACHER DO: Show students the cups, sand, soil, seeds, and water. If students are making cups in small groups, facilitate this activity step-by-step, providing time throughout for students to complete each task. If you are demonstrating the experiment, invite students to help you accomplish each task, and **Think Aloud** as you work to share your ideas and actions with the class.

TEACHER SAY: If we want to make a small desert in a cup, what do you think we should put in it? Look at the pictures in your student book for ideas.

 **STUDENTS DO:** Volunteer to identify what to put in the desert cup.

TEACHER SAY: Let's label this cup: Desert. Fill it halfway with sand. Place four seeds in the sand and sprinkle it with a little water. Let's put this cup in the sunshine.

 **STUDENTS DO:** Follow teacher directions (student groups or student helpers).

TEACHER SAY: Now look at the materials again. What do you think we should put in the second cup to make the forest?

 **STUDENTS DO:** Volunteer to identify what to put in the forest cup.

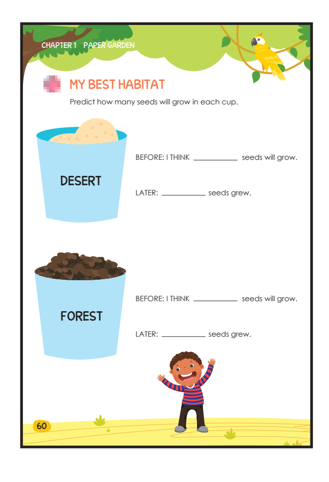
TEACHER SAY: Let's label this cup: Forest. Fill it halfway with soil. Place four seeds in the soil and sprinkle it with more water than our desert seeds.

 **STUDENTS DO:** Follow teacher directions or observe teacher actions.

6. TEACHER SAY: Turn to the page, My Best Habitat. Scientists make predictions. Everyone, say PREDICTIONS with me.

 **STUDENTS DO:** Repeat the word PREDICTIONS.

TEACHER SAY: When a scientist says what they THINK will happen before doing an experiment, this is a prediction. You have already discussed your ideas with a Shoulder Partner. Now we are going to write to communicate our ideas. We will use a number to communicate.



Remember, we put four seeds in the cup. You are going to predict, before we do our experiment, if 1, 2, 3, or 4 seeds will grow.

 **READ ALOUD: Predict how many seeds will grow in each cup.**

TEACHER DO: Read the label on the cup and the sentence below each cup that says, BEFORE: I think ___ seeds will grow.

 **STUDENTS DO:** Predict how many seeds will grow in each cup.

TEACHER SAY: Share your number prediction with your Shoulder Partner. Do they agree with you? Why do you think this will happen?

 **STUDENTS DO:** Share predictions and discuss with **Shoulder Partner**.

TEACHER SAY: We will observe our seeds carefully. Next week, we will come back to this page and complete the second sentence that says how many seeds actually grow.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today we observed and created two different environments. We communicated our predictions. Can ______ come help lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 3 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Sing a song about plant parts. • Sort plant parts. • Describe parts of a plant using color and shape words.	• Flower • Stem • Leaves • Root	• Plant images • Student books • Pencils • Small pieces of paper, four per student

PREPARATION
Preparation: Find approximately 8-10 images (printed or digital) of a variety of plants. These can include: a flowering tree, bush, flower, vegetable plant. Ideally you would be able to show all of the plant parts, but it is okay if the roots are not visible in all pictures. Place the pictures around the room with enough space for small groups to gather around them.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: Yesterday we set up an experiment to compare two environments for seeds. Who can share how we set up our experiment?

TEACHER DO: Use **Calling Sticks** to have three or four students share about the experiment.

 **STUDENTS DO:** Share how the class set up the plant environment experiment.

2. TEACHER DO: Hang up or project a large image of a flower. Then use index cards or pieces of paper to add labels.

TEACHER SAY: As our seeds begin to grow we will be able to see different parts the plant growing. Today we are going to explore and review the parts of a plant. We will think about the job of each plant part. Let's start by labeling this plant. Who can tell me what this part is called?

Note to Teacher: Students have had an opportunity to name plant parts in previous themes. Use this activity as a way to assess how much students remember about plant parts and to begin exploring more about plant part function.

TEACHER DO: Start by pointing to the flower at the top of the plant. Call on a student volunteer to identify the flower. Write the name of each part in large letters on the board, then either write on the image to add a label or use an index card or piece of paper to add the label. Repeat for each part of the plant (flower, stem, leaves, roots).

 **STUDENTS DO:** Volunteer to identify names of plant parts.

TEACHER DO: Give each student four small pieces of paper (just large enough to write one word). If you haven't already, place 8 to 10 images of plants around the room.

Note to Teacher: In the next activity, students are asked to write the full word for the parts of a plant. This builds on a similar activity earlier in the year where they traced the first letter of the word. If your class is

not yet ready to write full words, students can write the first letter or first sound of the words ('f' or 'fl' for flower, and so on) to use as a label.

3. TEACHER SAY: **Now I need your help to label the parts of the plants around the room. On each paper you will write the word for each plant part. Look at the words in the front of the room if you need help with spelling.**

 STUDENTS DO: Identify and write the word for each plant part.

TEACHER DO: Put students into groups around the images in the room. Once students are in the groups, they can discuss the parts they see and then add the labels they wrote.

TEACHER SAY: **Look at the plant in your group. As you think quietly, each person should place their labels next to the correct part.**

 STUDENTS DO: Place individual labels on the plant.

TEACHER SAY: **Now look at all the labels on your plant. Did everyone place their labels in the same spot? If you did, share how you knew where to add each label. If some people in your group placed their labels in different places, share why you made your choice. See if the group can reach a decision.**

 STUDENTS DO: Discuss agreements and/or disagreements with labeling.

TEACHER DO: Move around as students work. Tape the labels onto the plant so the images can be displayed.

4. TEACHER SAY: **Great job labeling your plant. Each part of the plant is so important. Each part of the plant does a job. I have a song we can sing to help us remember the parts and their jobs. Songs are another way we can communicate and learn. For this song, we will communicate with words, music, AND movement. You will get to act out each plant part. Everyone stand up at your seats.**

 STUDENTS DO: Stand up.

TEACHER DO: As you describe each plant part, model how students should stand.

TEACHER SAY: **For the flower you will open your fingers on your hand and hold your hands above your head.**

 STUDENTS DO: Act out flower.

TEACHER SAY: **For the stem, put your arms above your hand and stand straight and tall.**

 STUDENTS DO: Act out the stem.

TEACHER SAY: **For the leaves, hold your hands out next to you and wave them up and down.**

 STUDENTS DO: Act out leaves.

TEACHER SAY: **Finally, we need an action for the roots. Does anyone have an idea for how we can act out the roots of the plant?**

 STUDENTS DO: Suggest actions for the verse about roots.

TEACHER DO: If students do not have a suggestion, suggest holding hands down low with fingers spread apart so they look like roots going down to the ground. Repeat or quiz the students as needed to make sure they remember all four stances in preparation for learning the song.

5. TEACHER SAY: **Great, now we are ready for the song. The first part goes like this:**
Where are the flowers?
Where are the flowers?
Here we are.

Here we are.
Everyone, act like flowers.

 STUDENTS DO: Act like flowers to go along with the song.

TEACHER SAY: **I will keep singing.**
Flowers make the seeds.
Flowers make the seeds.
For the plant.
For the plant.
Where are the stems?
Where are the stems?
Here we are.
Here we are.

 STUDENTS DO: Act like stems to go along with the song.

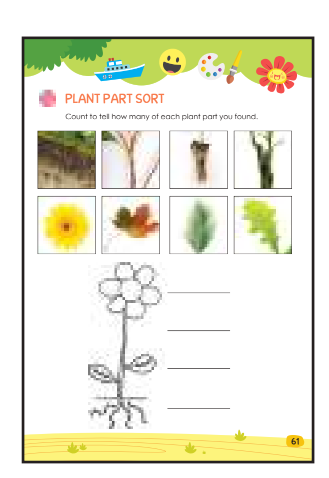
TEACHER SAY:
Stems can move the water.
Stems can move the water.
For the plant.
For the plant.
Where are the leaves?
Where are the leaves?
Here we are.
Here we are.

 STUDENTS DO: Act like leaves to go along with the song.

TEACHER SAY:
Leaves make the food.
Leaves make the food.
For the plant.
For the plant.
Where are the roots?
Where are the roots?
Here we are.
Here we are.

 STUDENTS DO: Act like roots to go along with the song.

TEACHER SAY:
Roots soak up the water.
Roots soak up the water.
For the plant.
For the plant.



TEACHER DO: Praise students for acting out each part. Repeat the song several times, encouraging students to join in the singing.

Note to Teacher: The plant parts can serve more functions than just the ones mentioned in the song. You can choose to address that with students. For example, the roots also hold plants into the ground and provide support.

6. TEACHER DO: Pass out student books. Open to the page titled Plant Part Sort.

TEACHER SAY: **Open your books to the page called Plant Part Sort. Look at each picture carefully to decide which part of the plant it shows. Not every leaf or every stem will look the same. If you have questions discuss with a Shoulder Partner.**

 STUDENTS DO: Categorize and sort plant parts.

TEACHER DO: Move around the room as students work. Support students in analyzing each picture.

TEACHER SAY: **Great job identifying each plant part. Now let's work on the bottom part of the page.**

 **READ ALOUD:** **Count to tell how many of each plant part you found.**

TEACHER SAY: **Let's count all the flowers you labeled. Then you will write the number to tell how many you found.**

TEACHER DO: Point to each flower and count. Identify how many flowers that are on the page with the class.

 **STUDENTS DO:** Count the number of flowers and write the number in the book (1).

TEACHER DO: Repeat the counting for each plant part. If necessary, model writing the number with the class. Ask students "How many _____ do you see?" and students should answer with the final number stated instead of recounting the set again.

7. TEACHER SAY: **Great job identifying your plant parts and counting how many we found on the page. I wonder, which plant part do you think will grow first in our experiment?**

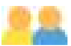
TEACHER DO: Provide **Wait Time**. Then allow students to share ideas briefly with a **Shoulder Partner**. Use **Calling Sticks** to invite four or five students to share what they think. Prompt students by asking, "Why do you think that?"

 **STUDENTS DO:** Share with a **Shoulder Partner** then respond in the whole group.

8. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: **Today we communicated with words, pictures, music, numbers, and movement. Can ______ come help lead our closing today?**

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 4 Overview

LEARNING OUTCOMES

Students will:
- Use images, books, or digital resources to answer plant/flower related questions.

KEY VOCABULARY

- Plant

MATERIALS

- **Know-Wonder-Learn**, made previously in the chapter
- Books or videos on plants
- Images of plants to answer questions

PREPARATION

Prior to the lesson choose one or two questions from the **Know-Wonder-Learn** chart to answer with the class. With those questions in mind, find images, books, and/or digital resources that will help answer those questions. For example, if a question was, "Can flowers be more than one color?" you can find a real image of a lily that can be multiple colors. The lesson focuses students on learning how to analyze an image to answer questions.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: **Yesterday we sang a song to help us remember the parts of a plant. Who can help us sing the song as we start our lesson? Remember as we listen to our friends sing we sit quietly, keep our eyes on the singer, and clap when they finish.**

TEACHER DO: Invite three or four students at a time to sing the plant part song to the class. You can have several different groups of students come up to sing the whole song or assign different groups one verse each. Before starting the new lesson, also choose one or two students to add some water to the seeds planted in the mini "forest" habitat in Lesson 2.

 STUDENTS DO: Volunteer to sing the plant parts song.

2. TEACHER SAY: **We wrote down some questions about plants a few days ago. Today we are going to work on finding answers to some of our plant questions. We will use pictures to help us find answers. Pictures can communicate to us and show us information.**



TEACHER DO: Hang up the **Know-Wonder-Learn** from the first lesson of the chapter. Have the question "Do all plants grow in the ground?" and one or two other questions you have selected circled.

TEACHER SAY: **I have circled three great questions you asked. We are going to work today to answer these three questions.**

TEACHER DO: Read aloud the three questions. Then pass out student books. Direct students to open the page called Analyzing a Picture.

TEACHER SAY: **We will start by answering "Do all plants grow in the ground?" We are going to look at two pictures together. As we look at these pictures we will look for clues to answer the question. Open your book to the page called Analyzing a Picture.**



READ ALOUD: Use the pictures below to answer the question "Do all plants grow in the ground?"

TEACHER SAY: Point to the first picture. What do you see in this picture? Tell your Shoulder Partner.

 **STUDENTS DO:** Discuss the picture with a **Shoulder Partner**.

TEACHER SAY: This picture shows a tree. It also shows moss, which is a plant, on the roots of the tree. How can this picture help answer our question?

TEACHER DO: Provide **Wait Time**. Then, you can either choose to use **Calling Sticks** or ask for volunteers to answer the question.

 **STUDENTS DO:** Answer the question, pointing out clues from the picture.

TEACHER DO: As students answer, be sure to have students reference details in the picture that support the answer.

TEACHER SAY: Now, let's look at the next picture. What do you see? Whisper your answer to yourself.

 **STUDENTS DO:** Describe the picture to themselves in a **Whisper**.

TEACHER SAY: What question are we trying to answer? Raise your hand if you remember.

TEACHER DO: Call on a student to repeat the question: "Do all plants grow in the ground?"

TEACHER SAY: How does this picture help us answer the question? Turn and talk to a Shoulder Partner about the clues you can see in the picture.

 **STUDENTS DO:** Discuss clues in the second picture that help answer the question.

TEACHER DO: Extend the discussion with the third picture, which presents a compromise: there is soil in the planter, but the flowers are hanging from a window instead of "in the ground."

3. TEACHER SAY: I want you to answer the question now and tell us how you know based on one of the pictures you saw.

TEACHER DO: Use **Calling Sticks** to have students answer the question "Do all plants grow in the ground?" Students could respond by saying, "No, all plants do not grow in the ground. I know because I can see the flower growing on top of the water."

 **STUDENTS DO:** Answer the question, stating evidence from at least one picture.

TEACHER SAY: Now you will work in groups to answer our other two questions. You will analyze a picture to find the answer. If I give your group this picture (hold up image) you will answer this question (state question). If I give your group this picture (hold up image) you will answer this question (state question).

TEACHER DO: Put students into groups of three or four. Pass out a preselected image that will help answer one of the two questions you identified with the class. Provide time for students to work together to look for clues to answer a question.

 **STUDENTS DO:** Analyze the picture in a group then answer one of the questions using evidence from the picture.

**TEACHER SAY: As a class, we have answered two more questions today.
Let's share our answers. We can communicate what we learned to help our friends learn too.**

TEACHER DO: Call on groups one at a time to share answers with the class.

 **STUDENTS DO:** State the question, the answer, and the clues from the picture that support the answer.

4. TEACHER SAY: We were able to answer three questions today. We just communicated our answers by speaking. Now, let's communicate them again in writing. We will add what we learned to our Know-Wonder-Learn.

TEACHER DO: Write up three new facts learned about plants. Then, if you were able to find any, share books or videos about plants for students to read or view.

TEACHER SAY: We can also learn information from (a book, a video, or both). Listen carefully for new information that we can add to the Know-Wonder-Learn.

TEACHER DO: Read a book or view a video with students. Stop at appropriate points to ask questions about content and identify new information. As you read or view, add information learned to the **Know-Wonder-Learn**.

 **STUDENTS DO:** Listen attentively for new facts about plants to add to the **Know-Wonder-Learn**.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today we answered some of our questions about plants. Can ______ come help lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on three students to share types of communication used in the classroom during the lesson, and three more students to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on volunteers.

 **STUDENTS DO:** Share types of communication used and new ideas learned from today's lessons.

Lesson 5 Overview

LEARNING OUTCOMES

Students will:

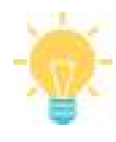
- Describe images using color, shape, and plant vocabulary.
- Listen carefully to complete a drawing based on oral description.

KEY VOCABULARY

- Root
- Stem
- Flower
- Leaves
- Circle
- Triangle
- Pattern

MATERIALS

- Chart paper and markers
- Picture of a Bird of Paradise plant
- **Bell**



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: Who can remember our song about the jobs that plant parts do? Let's start our lesson today by singing it together.

TEACHER DO: Select a few volunteers to lead the class in singing the song about plant parts from the first lesson.

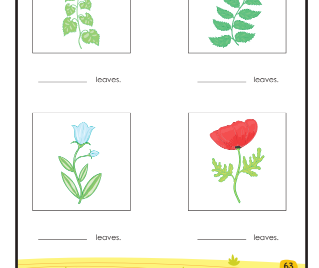
 **STUDENTS DO:** Volunteers help lead the rest of the class in song.

2. TEACHER SAY: Excellent. In the previous lesson, we looked at images of plants in order to answer our questions. Today, we are going to look at more images of plants. Our goal today is to describe what we see. You have been working hard all year learning the names of colors and shapes. We will start with describing the colors and shapes we see.

TEACHER DO: Choose an object in the room that has a simple shape and is all or mostly one color. For example, a book could be described as a "yellow rectangle."

TEACHER SAY: For example, if I said "I see (describe the shape and color of a visible object)," what object am I describing?

 **STUDENTS DO:** Share ideas and guesses.



TEACHER SAY: Plants and flowers are fun to study because they are beautiful and have many colors and shapes. Let's practice observing and communicating the shapes and colors we see.

TEACHER DO: Pass out student books. Hold up student book page, P is for Plant.

TEACHER SAY: Turn to this page in your student book. It is called, P is for Plant. Listen carefully to my question, then Whisper your answer into your hand like this.

 **STUDENTS DO:** Find the correct page in the student book.

TEACHER SAY: Ready for the question? Remember to Whisper your answer into your hand. Are these plants similar or different?

 **STUDENTS DO: Whisper** the answer into their hands.

TEACHER SAY: Now turn to your Shoulder Partner and share what you whispered.

 **STUDENTS DO:** Share answer with a **Shoulder Partner**.

TEACHER DO: Listen for student responses. Select two students to share answers with the class.

TEACHER SAY: That was a slightly unfair question. These plants are similar in some ways and different in others. What are some ways they are different? Communicate your answer using words for parts of the plant.

TEACHER DO: Use **Calling Sticks** to select four or five students to share their ideas. Call attention to the different root types if students do not mention it.

 **STUDENTS DO:** Share answers with the class.

3. TEACHER SAY: The ideas we have been learning all year can help us study plants. We can find shapes we know. We can describe the shapes we see. We can describe colors we know. We can even count the different parts of plants. What shapes do you see in these plants?

TEACHER DO: Use **Calling Sticks** to select four or five students to share their ideas. Encourage students to use parts of the plants such as flower, stem, leaves, and roots as they describe the shapes.

 **STUDENTS DO:** Share answers with the class.

TEACHER SAY: What colors do you see in these plants?

TEACHER DO: Use **Calling Sticks** to select four or five students to share their ideas. Encourage students to use parts of the plants such as flower, stem, leaves, and roots as they describe the colors.

 **STUDENTS DO:** Share answers with the class.

TEACHER SAY: Wonderful. Now, let's practice counting.

 **READ ALOUD: Count the leaves. Put the number in the box.**

 **STUDENTS DO:** Count the leaves. Put the number on the line below the box.

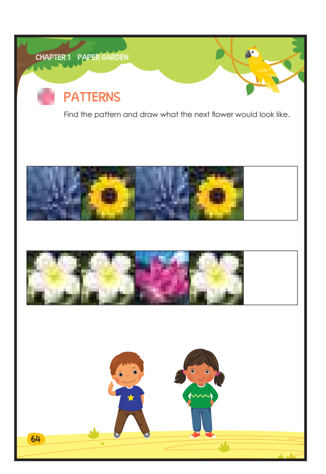
TEACHER DO: Listen to students counting and assist as needed as you circulate around the room.

TEACHER SAY: Let's check your work. First, share your numbers with your Shoulder Partner. If your answers are not the same, count together.

 **STUDENTS DO:** Share answers with **Shoulder Partner**, re-counting as needed.

TEACHER SAY: Now, can you communicate your answers to me silently, using your hands? Let's try. How many leaves does the first picture have?

 **STUDENTS DO:** Show the number of leaves silently, with fingers.



TEACHER SAY: I see many of you are showing me 10 fingers. Good job communicating without speaking. You are correct, the first picture has 10 leaves.

TEACHER DO: Repeat having students show answers in various ways for the remaining three pictures.

 **STUDENTS DO:** Communicate answers as requested for each picture.

4. TEACHER SAY: We can review and learn even more by studying flowers. Turn to the next page in your book, called Patterns. This page has photographs of flowers. The photographs are arranged in a pattern. We have discussed patterns when we learn Math. Who can describe or give an example of a pattern? I will draw what you say on the board.

 **STUDENTS DO:** Raise hands to offer a definition or examples of a pattern.

TEACHER DO: If students describe an example of a pattern, draw it on the board.

TEACHER SAY: Wonderful. Thank you for reminding us about what a pattern is. Let's practice recognizing patterns.

TEACHER DO: Using chart paper, draw the following pattern: circle, square, circle, square. Ask students for a choral response as to what would come next in the pattern.

 **STUDENTS DO:** Respond with CIRCLE.

TEACHER SAY: Very good. Here is one that is a little more challenging. Watch as I draw the next one.

TEACHER DO: Using chart paper, draw the following pattern: circle, square, square, circle, square. Ask students for a choral response as to what would come next in the pattern.

 **STUDENTS DO:** Respond with SQUARE.

TEACHER SAY: Now it is time for you to try a few in your student book. Look at the pictures and identify the pattern. Look carefully at the shapes you see in these plants. Use the shapes you know to help you draw the next flower. Use the right color crayon for the pattern.

 **READ ALOUD: Find the pattern and draw what the next flower would look like.**

 **STUDENTS DO:** Complete patterns in student book.

TEACHER DO: Circulate around the room as students complete this page. Encourage students to look for shapes and colors. Allow students time to draw the next plant in the pattern. Remind students to use the correct color crayon. Use an **Attention Getting Signal** to bring students back to a whole class conversation.

TEACHER SAY: Let's check our answers. We will communicate answers without words again. Wave your hands back and forth if you drew a (describe the plant, like: "blue plant with lots of triangles") in the first row. Pat your knees if you drew a (example: "yellow picture of a circular flower") in the second row.

 **STUDENTS DO:** Wave arms and pat knees in response to check for understanding.



4. TEACHER SAY: Looking carefully at things helps us discover patterns. Listening carefully is another important skill. Turn to the page, I Heard You Say... Did you know we can communicate what a picture looks like using words? I am going to describe a plant. Listen carefully.

 **STUDENTS DO:** Listen carefully as description is read aloud.

TEACHER SAY: Everyone, close your eyes. I want you to just listen and get a picture in your mind. Then, I will read it again slowly so you can draw. Ready? Close your eyes.



TEACHER SAY: Close eyes to listen.
My plant has a long stem that is as thick as your little finger.
The stem is green with a little orange at the top.
My plant has two green leaves on the left side of the stem.
The leaves are shaped like triangles, pointing up.
The flower of my plant is very special.
The flower looks like a long triangle laying on its side.
The triangle points to the right.
The biggest part of the triangle is attached to the stem.
This bottom of the triangle flower is green like the leaf.
The top is bright red.
Near the fat part of the triangle, sticking up are eight more triangles.
These stick up like a crown, or like hair that has not been brushed.
These triangles are bright yellow.
Can you see my flower in your mind?
Okay, Open your eyes. I will read the description again slowly. This time, I will be communicating instructions. You will draw what I describe.

 **READ ALOUD: Draw the plant as it is described.**

TEACHER DO: Read the description again slowly, pausing after each paragraph. Give students ample time to draw and color as you read. Repeat each line several times to ensure close listening. Make sure to let students know there is not a correct way to draw the plant, that this activity is designed for them to practice listening, recognizing shapes, and colors. Prompt students to listen for shapes and colors so that they know what to draw. When finished, walk around to show students a picture of a Bird of Paradise.

 **STUDENTS DO:** Draw and color as the teacher reads aloud a description of a plant.

TEACHER SAY: Thank you for listening so carefully. Leave your drawings open and stand up. We will do a Gallery Walk to appreciate each other's drawings. Walk around the rows and look at some of your friend's drawings.

 **STUDENTS DO:** Walk around room and view other drawings.

TEACHER DO: Give students time to view other's work. Ring **Bell** to gain their attention.

TEACHER SAY: Did everyone's picture look exactly the same (Choral response)? Why do you think some pictures look different?

TEACHER DO: Using **Calling Sticks**, ask four or five students to respond.

 **STUDENTS DO:** Respond when called on.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

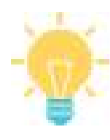
TEACHER SAY: Today we used colors and shapes to talk about parts of plants. We communicated a picture and instructions for drawing a picture using only words. Can ______ come help lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share something students enjoyed today. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share something they enjoyed from today's lessons.

Lesson 6 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Create drawing of a flower using colors and shapes. • Orally describe drawing to a partner, using color, shape, and number vocabulary. • Listen and draw based on an oral description.	• Instructions • Petal	• Chart paper • Crayons • Pencils • Student book



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: **Yesterday, we used color and shapes to talk about the parts of plants. Who remembers some of the shapes and colors I used to describe my flower?**

TEACHER DO: Use Calling Sticks to have students recall shape and color words used for the picture description. Before starting the new lesson, also choose one or two students to add some water to the seeds planted in the mini "forest" habitat in Lesson 2. If any shoots are starting to grow, allow students to get up to observe the shoots in pairs throughout the work session.

 STUDENTS DO: Share shape and color words used previously.

2. TEACHER SAY: **Today you will get a chance to draw your own flower using shapes to make the part of the plant. Then, you will be the communicators. You will provide a friend instructions for how to re-create your drawing. You will use colors, shapes, and numbers to describe your picture. Sometimes a picture communicates information to us. We can also communicate about art that we create.**

TEACHER DO: Hang up chart paper at the front of the room.

TEACHER SAY: **Let's start by drawing an original flower together. Can you help me use shapes, colors, and numbers to draw a flower? First, I will draw the flower stem. I will use a long rectangle for the stem. What color should I use?**

TEACHER DO: Use Calling Sticks to have a variety of students answer questions related to your drawing.

 STUDENTS DO: Provide color and shape suggestions to the teacher.

TEACHER DO: Draw the stem in the color chosen by a student.

TEACHER SAY: **Second, I want to add leaves onto my stem. I will choose a number of leaves between 1 and 4. Let's count from 1 to 4 together.**

 STUDENTS DO: Count aloud to 4.

TEACHER SAY: **How many leaves should I add? What shape should the leaves be? What colors should I use?**

TEACHER DO: Pause between each question and use **Calling Sticks** for students to share suggestions. Then, add the leaves to your drawing.

TEACHER SAY: Third, I will add the flower. I want to put petals on my flower. I will choose a number of petals between 5 and 10. Let's count from 5 to 10 together.

 **STUDENTS DO:** Starting at 5 count up to 10.

TEACHER SAY: How many petals should I add? What shape should the petals be? What colors should I use?

TEACHER DO: Pause between each question and use **Calling Sticks** for students to share suggestions. Then, add the petals to your drawing. You can choose to add in more than one color. This provides multiple opportunities to use numbers in your description (8 petals, 3 are red and 5 are blue).

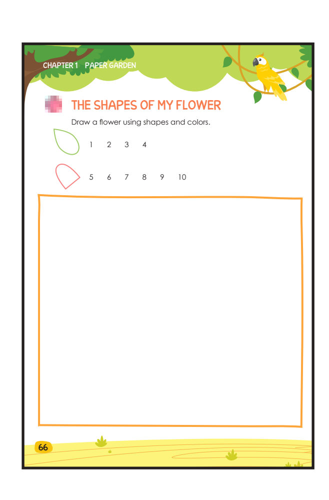
3. TEACHER SAY: Thank you for helping me make my drawing. Now we can describe the drawing together. Let's pretend someone new just came into the room. We want to give her INSTRUCTIONS for how to copy this flower. How can we use color, shape, and numbers to describe it to her? I could say: I see a long green stem shaped like a rectangle. What else could we say?

 **STUDENTS DO:** Offer ideas for how to describe the drawing.

TEACHER DO: Call on students to add descriptions such as the number, shape, and color of different parts of the drawing. Clarify misconceptions as needed.

TEACHER SAY: Those are helpful descriptions. Now, turn to a Shoulder Partner and practice describing the flower.

 **STUDENTS DO:** Describe the flower to a **Shoulder Partner**.



4. TEACHER DO: Pass out student books. Hold up student book and show students the page called The Shapes of My Flower.

TEACHER SAY: You will all now get a chance to draw your own flower. Then you will communicate what your flower looks like to a partner. Your partner will listen carefully and draw what you describe. Open your books to the page called The Shapes of My Flower.

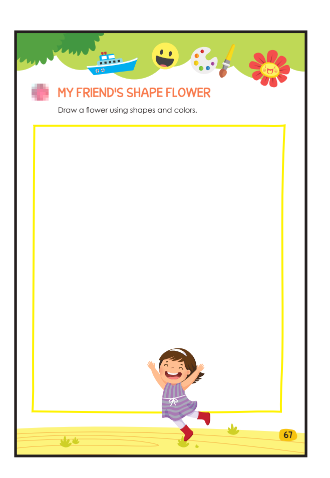
 **READ ALOUD: Draw a flower using shapes and colors.**

TEACHER SAY: Before you start, think about how many leaves you will draw. At the top of the page you can see a little leaf picture and the numbers 1, 2, 3, 4. Circle how many leaves you plan to draw.

 **STUDENTS DO:** Circle the number of leaves.

TEACHER SAY: Now think about how many flower petals you will draw. You also see a little flower picture and the numbers 5 through 10. Circle how many petals you plan to draw.

 **STUDENTS DO:** Circle the number of petals.



TEACHER SAY: As you draw, make sure you include a stem, leaves, and flower petals. Make sure you use different colors and shapes.

 **STUDENTS DO:** Draw a shape flower using multiple colors and shapes.

TEACHER DO: Move around the room, periodically asking students to describe what they are drawing using shapes, colors, and numbers.

5. TEACHER DO: After students finish drawing, have them turn to the page called My Friend's Shape Flower. Put students with a partner that was not sitting near them for the drawing session.

TEACHER SAY: Let's practice communicating about art. You will describe your picture to your partner. You need to give details so that your partner can draw the same picture. Remember to describe the color of each plant part, the shape of each plant part and how many of each you drew. Your partner will listen carefully and try to draw each part. The partner with the longer hair will draw first.

Note to Teacher: If necessary, provide time for students to practice describing their picture on their own first. You can also give specific sentence starters if needed. Direct students to first describe the stem. Then give the partner time to draw the stem. Direct students to describe the leaves and then the petals.

TEACHER SAY: If you are the communicator, turn back in your student book to the flower you drew. Make sure you hold up your book so your partner cannot see. You may begin.

 **STUDENTS DO:** Orally describe the flower picture while the partner draws.

TEACHER DO: Listen as students give descriptions and prompt students to use color, shape, and numbers. Look at the drawings students are creating and support students in listening to the descriptions. Once students finish describing and drawing, allow them to compare pictures.

TEACHER SAY: When you are done, compare your picture to what your partner drew. How close are the pictures? How well do you think you described your picture?

 **STUDENTS DO:** Share and discuss drawings.

TEACHER SAY: Now we will switch roles.

 **STUDENTS DO:** Orally describe flower picture while their partner draws.

TEACHER SAY: Great job describing and listening today. Sometimes communicating with a partner can be difficult. I am proud of you for working so hard with your friend.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today we learned how to communicate with our friends. Can ______ come help lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 7 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Create observational drawings of plants as a class, using appropriate shapes and colors.	• Petal	• Real (or silk) plants or flowers, one per row or table group if possible

PREPARATION

If your students created mini desert and forest habitats for seeds in small groups earlier in the chapter, adjust this lesson to be a close observation and drawing of the shoots that are visible. Explain to students that scientists often communicate results of experiments through detailed pictures of what they observe happening. It will also be useful to gather real or silk flowers so that students can closely examine the different parts of the plants.



Learn (90 minutes)

Directions

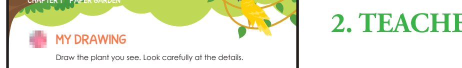
1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: Yesterday, we used colors, shapes, and numbers to describe a flower drawing to a friend. Turn to a Shoulder Partner, and tell them how you felt when you were drawing based on a friend's directions yesterday.



STUDENTS DO: Describe how it felt to try following verbal directions.

TEACHER SAY: Art is a great way to express yourself. You can communicate how you feel with art. We made a beautiful flower just using shapes, but a real flower does not look exactly like the shapes we used. Sometimes, we use art to communicate what something real looks like. That way, we can share the object with someone who has not seen it. Today we are going to observe and draw some real plants. Your drawing will communicate the plant you saw today to someone who was not here.



2. TEACHER DO: Pass out student books. Hold up student book page My Drawing.

TEACHER SAY: Turn to page My Drawing in your student book.



STUDENTS DO: Find the correct page in the student book.

TEACHER DO: Place a vase or other container with the real/silk flowers in an area where all students can see. If possible, gather enough plants to distribute around the room. Select one flower to model process for students. Select volunteers to answer questions.

Note to Teacher: If you do not have access to a real plant, you can project a digital image for students to observe. You may also choose to draw the flower on large chart paper as you discuss the various details.

TEACHER DO: Display or draw a very basic line drawing of a flower. It should not match the flower image.

TEACHER SAY: Look at the flower I have selected. I drew a quick picture to show what it looks like. Does my picture look like the flower I selected?



STUDENTS DO: Respond with yes or no to the teacher's question.

3. TEACHER DO: As you model drawing the flower, draw one part poorly, step back and then verbally state that the part you just drew does not look quite right. Tell the students that observing and improving is an important part of drawing.

TEACHER SAY: **We want to draw what we really see, not just what we think a flower looks like. We can communicate about the world by drawing real details in our art. Help me observe the flower carefully. Let's look at the shapes and lines we see. Let's start with the center of the flower. What shape do you see from where you are sitting?**

 **STUDENTS DO:** Identify the shape in the center of the demonstration flower.

TEACHER SAY: **Next, look at the petals. What shape are they?**

 **STUDENTS DO:** Identify the shape of the petals.

TEACHER SAY: **How long and skinny is the stem? Are there any bumps? What shape are the leaves? Does the center of the leaf look different? Turn and talk to your Shoulder Partner about what you can observe.**

 **STUDENTS DO:** Share observations with a **Shoulder Partner**.

TEACHER DO: Use **Calling Sticks** to have students share observations.

TEACHER SAY: **It is your turn to draw.**

 **READ ALOUD:** **Draw the plant you see. Look carefully at the details.**

TEACHER SAY: **Draw first, and then color.**

Note to Teacher: If possible, allow students to remove flowers from vase in order to view them from a different perspective. Playing soft, classical music in the background will also help students slow down and focus.

 **STUDENTS DO:** Draw a flower or plant based on direct observations.

TEACHER DO: As you circulate around the room, prompt students to consider details such as the center of the flower, the outside edges of the flower, details in the leaves, colors, and so on. Allow students enough time to really focus on the details. At the mid-point of the time allotted, have students share the in-progress picture with a **Shoulder Partner**. Prompt **Shoulder Partners** to offer one compliment and one suggestion to make the drawing even more realistic. Students who finish early may choose to draw another flower.

4. TEACHER SAY: **I can see that you are observing your plants very carefully. Tell me something you noticed about your plant.**

TEACHER DO: Use **Calling Sticks** to select four or five students to share.

 **STUDENTS DO:** Share answers with the class.

TEACHER SAY: **I hope you observe the little details about the things you see on your way home today. Observing carefully will help you communicate to others about what you see in the world around you.**

TEACHER DO: If possible, have students cut out the plant drawings to either take home to show family members or to hang around the classroom.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: **Today we learned how to make careful observations as we drew flowers and plants. We learned to communicate what we see through art. Can ______ come help lead our closing today?**

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 8 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Use data collected from growing seeds to create a bar graph. • Create a plant model using shapes (collage).	• Prediction • Data • Collage	• Chart paper/markers • Colored paper (can be recycled) • Various art materials • Glue • Scissors if possible (if not, students may tear pieces of paper)



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: In the previous lesson, we observed carefully and made drawings of plants. What was easy about observing and drawing? What was difficult about observing and drawing?

TEACHER DO: Select four or five volunteers to share their ideas.



STUDENTS DO: Share ideas with the class.

2. TEACHER SAY: Thank you for sharing. Let's check on our seeds today. We can observe and communicate the results of our experiment. First, we will find out how many seeds have appeared in our two habitats.

TEACHER DO: Use **Calling Sticks** to ask students to check on and report to class how many seeds have sprouted. Hang a large piece of chart paper in an area visible to all students. Create a bar graph with the title of each cup on the X (horizontal) axis and the numbers 0-4 on the Y (vertical) axis.



STUDENTS DO: Selected students count how many seeds have sprouted in each cup.

TEACHER SAY: Let's communicate what we observe. Scientists often use graphs to communicate their data. We have made bar graphs in previous lessons. A graph is like a picture. Our data is the number of seeds that sprouted. We can make a bar graph to show our results and answer the question where _____(name of plant you used) seeds grow best. When you tell me how many seeds sprouted in each cup, I will color in the rectangles next to the numbers.



STUDENTS DO: Tell teacher and class how many seeds sprouted in the Desert cup.

TEACHER DO: Model filling in the appropriate number of rectangles on the bar graph for the first cup, then ask for volunteers to fill in for the next cup. Use a different color marker for each cup.

TEACHER SAY: Who can color the next one?



STUDENTS DO: Color the rectangles for how many seeds sprouted in the Desert and Forest cups.

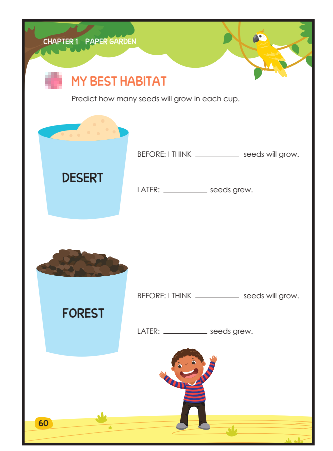
3. TEACHER SAY: Our bar graph helps us see our data like a picture instead of just numbers. What does our data show us? Which cup had more seeds sprout?

 **STUDENTS DO:** Identify the cup that had more seeds sprout.

Note to Teacher: If both cups have the same number of visible sprouts but one cup's sprouts are visibly taller and stronger, measure the sprout height for the students and adjust the bar graph to show centimeters of height rather than number of sprouts.

TEACHER SAY: Can you tell me, how did you decide which cup had more?

 **STUDENTS DO:** Explain answers (counted and compared to find the larger number, picked the bar that was taller).



TEACHER SAY: Our data shows us that more ______ seeds grew in the _______ cup. Open your student book to the page, My Best Habitat. Remember when you made a prediction? Let's look back at our predictions. Raise your hand if you thought the desert cup would sprout more seeds?

 **STUDENTS DO:** Raise hands to show prediction.

TEACHER SAY: Now, let's complete the sentence with our data. The sentence under each cup says "_____ seeds grew." How should we complete the sentences?

 **STUDENTS DO:** Offer ideas.

TEACHER SAY: Yes, we can write the number of seeds that grew. Please write the WORD and the number. So if our answer was 4, write "four" and "4."

TEACHER DO: Demonstrate the difference between word and number on the board.

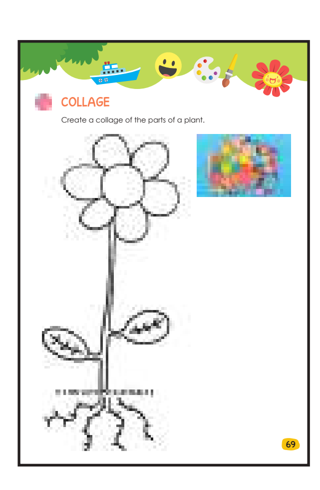
 **STUDENTS DO:** Write the actual number of seeds that sprouted.

TEACHER SAY: How did your prediction compare to the actual number of seeds that sprouted? We can communicate what we learned from our experiment. Share with a Shoulder Partner.

 **STUDENTS DO:** Share how close predictions were to the actual number of seeds that sprouted.

4. TEACHER SAY: When scientists make predictions, they do not know what will happen. It is okay if you did not predict the right number. Turn and shake your partner's hand. Tell your partner, "Nice work, scientist."

 **STUDENTS DO:** Shake hands and say "Nice work, scientist."



TEACHER SAY: We have been communicating through words, numbers, and different forms of art in this chapter. Another way to express what we know and are learning about plants is to make a COLLAGE. Everyone, say COLLAGE with me.

 **STUDENTS DO:** Repeat the word collage.

TEACHER SAY: A collage is a picture made by combining different images, words, and materials.

TEACHER DO: Pass out student books. Hold up student book page Collage.

TEACHER SAY: Turn to this page in your student book. It is called Collage.

 **STUDENTS DO:** Find the correct page in the student book.

TEACHER SAY: The picture at the top of the page is an example of a collage. This collage is of an elephant. From looking at this picture, what do you think a collage is?

 **STUDENTS DO:** Share ideas.

TEACHER SAY: **Notice, it has a lot of different colors and different sized shapes. How does this collage make you feel? Turn to your Shoulder Partner to share.**

 STUDENTS DO: Share reactions to the collage with a **Shoulder Partner**.

TEACHER DO: Ask student volunteers to share with the class. Prompt students to explain their reactions if needed, by asking them about the colors used: "Are they happy colors?" "Calm colors?" "Does the use of the big and small squares help convey the size of the elephant?"

 STUDENTS DO: Share ideas with the class.

TEACHER SAY: **Art is a great way to express yourself. You can communicate how you feel using art. Remember our song about plant parts? Let's sing it together.**

TEACHER DO: Before each verse, give students verbal cues for an emotion to use to sing the verse. Begin with happy and sad, then add other emotions like "tired" (imagine the plant part works particularly hard).

 STUDENTS DO: Sing song about plant parts.

TEACHER SAY: **You are going to create a collage of the parts of a plant. On the page you have an outline of a plant. You will choose materials and pieces to fill in the parts of the plant. Then you will add materials to show the environment around the plant. Your art materials are located ______.**

TEACHER DO: Distribute or provide instructions for how students should access the available art materials.

 STUDENTS DO: Prepare to work on a collage by gathering a variety of materials.

TEACHER SAY: **Think about the colors and shapes you will use and why. Discuss your ideas for colors and shapes with a Shoulder Partner. Then look for those shapes and colors in your materials.**

 STUDENTS DO: Share ideas with a **Shoulder Partner** then plan materials.

TEACHER SAY: **What habitat will your plant live in? Discuss your idea with a Shoulder Partner. What materials will help you show the habitat?**

 STUDENTS DO: Share ideas with a **Shoulder Partner** then plan materials.

5. TEACHER SAY: **Use the space below the collage of the elephant to arrange your materials as you want them. Be sure you are happy with the arrangement before you glue anything on to the page.**

 READ ALOUD: **Create a collage of the parts of a plant.**

 STUDENTS DO: Create a collage of the parts of a plant.

TEACHER DO: Circulate around the room. Ask students about the colors and shapes they are using and why they chose those colors, shapes, and so on. Remind students that observing and improving their art is part of the process. As students finish, they may share their collages. Encourage students who are finished to clean up their space and return and unused materials.

TEACHER SAY: **Your collages look so nice. I hope you share them at home.**

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: **Today we communicated using a new form of art. We made a collage. For our closing today, I want you to sit in groups of four and share your collage.**

 STUDENTS DO: Sit with a group of four students.

TEACHER DO: Allow students to select their groups of four, but be aware of any students not selected and help them find a group.

TEACHER SAY: **When you share your collage, take turns and listen to each other politely. Tell your classmates why you used the colors and shapes you did.**

 **STUDENTS DO:** Share collages, taking turns and listening to each other.

TEACHER SAY: **Thank you for sharing and listening politely.**

Lesson 9 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Make observations about works of art. • Use a variety of materials to replicate a favorite plant or flower or garden scene.	• Collage	• **Bell** • Art books from the library if available. If not, use images from the internet. Suggested images: Monet's Water Lilies 1919, Vincent van Gogh - Still Life Vase with Twelve Sunflowers, 1888, Inji Eflatoun's Landscape, or Georgia O'Keeffe - Red Poppy, 1927 • Art materials such as finger paints, markers, water colors, colored paper, scraps of material, buttons, chenille stems, cotton swabs, cotton balls, string, glue, scissors, paint brushes, glitter, and so on • Large drawing paper for each student

PREPARATION

- Set up art supplies in a central location. Place art books or digital images in each corner of the room, or spaced throughout the room if more appropriate for your class size.



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: **Yesterday, we made a collage. How did we make a collage? What colors make you happy? Do any colors make you feel sad?**

TEACHER DO: Ask questions one at a time, using **Calling Sticks** to select four or five students to share ideas.

 STUDENTS DO: Share ideas with the class.

2. TEACHER SAY: **We have been working very hard at using art to communicate what we know about plants. Many famous artists have also used plants in their artwork. In each corner of the room, there are art books (or images) of some famous paintings of plants. You will be discussing these paintings in groups.**

TEACHER DO: Send groups of students to each corner of the room or wherever the art is distributed.

TEACHER SAY: **When you arrive at your painting, observe it carefully. Use what you know about plants to discuss what you see.**

TEACHER DO: Allow time for students to look and discuss the image. As you walk around, encourage students (or prompt the whole class) to look at the detail or lack of detail, the colors, shapes, and so on.

TEACHER SAY: **I am hearing some wonderful conversations. Now, continue talking to your group. How does the painting make you feel? What do you wonder?**

TEACHER DO: Use the **Bell** as a signal, ask students to more to the next corner or space in a clockwise manner. After viewing all the images, the students will return to rows.

 STUDENTS DO: Discuss famous paintings in terms of color, details, and shapes used.

3. TEACHER SAY: Each of these artists has a different style or way of painting flowers. Now you will get to show us your individual style. Using the art materials located ______, you will work together create an original work of art showing your favorite flower, plant, or garden scene.

Note to Teacher: Another option is to allow students to use the Paint program on a computer to create a work of art if computers are available.

TEACHER DO: Circulate around the room as students use various art supplies. Offer technical assistance with paint if needed. Prompt students to explain their use of color, shape, and detail. Ring **Bell** to regain their attention. Use several breaks during this time to refocus and evaluate work accomplished so far.

4. TEACHER SAY: Take a moment to step back and look at your work. Is there anything you can improve? Share your painting with a Shoulder Partner and ask for suggestions.

 **STUDENTS DO:** Evaluate work completed and make improvements.

TEACHER SAY: Remember to clean up your materials when you are done.

TEACHER DO: Provide more specific instructions for how you would like students to clean up if needed.

 **STUDENTS DO:** Clean work space and return unused materials.

TEACHER SAY: You have done a great job today creating your own work of art. I am going to hang them up so we can have an art gallery for our next lesson.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today we communicated about artwork. We also communicated through a painting of our own. Can ______ come help lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share something students enjoyed today. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share something they enjoyed about today's lessons.

Lesson 10 Overview

LEARNING OUTCOMES	MATERIALS	PREPARATION
Students will: • Describe artwork using numbers, colors, and shapes. • Provide feedback to other students.	• **Bell**	• Hang student works of art from previous lessons in the classroom and/or hallway. If there is enough space, include shape drawings, collages, and final paintings.



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: Yesterday, we looked at famous artist paintings of flowers and we created our own famous artwork. What did you like best about the artist's paintings you discussed yesterday?

 **STUDENTS DO:** Offer ideas.

2. TEACHER SAY: Before painting plants, we drew flowers using shapes and created collages of the parts of a plant. Today, we will view and comment on each other's works of art. We will pretend we are in an art gallery. Can a few students remind us how we should behave if we were visiting a real art gallery or museum?

TEACHER DO: Call on students with hands raised to answer.

 **STUDENTS DO:** Offer ideas.

TEACHER SAY: Let's take a Gallery Walk. I want you to look for details in the artwork. Look at the shapes and colors used. Think about how the artwork makes you feel.

TEACHER DO: Line students up and allow them to walk quietly past each piece of artwork. Remind them that when we go on a **Gallery Walk**, we pretend we are in a museum and use appropriate behavior for visiting.

 **STUDENTS DO:** Walk quietly past each piece of artwork.

TEACHER DO: When finished with the **Gallery Walk**, ask them to select one piece of their art work to present to groups. Have students sit in a circle with their row or back at their tables.

3. TEACHER SAY: We have quietly viewed the art we as a class have created. Now we are going to present our art to some friends. Please select the piece of art you created that makes you the proudest. Return to your tables (or rows) with your piece of art and sit with your group.

 **STUDENTS DO:** Sit with row or table.

Note to Teacher: If you prefer smaller groups, allow students to select a group of four and sit in a circle.

TEACHER SAY: Each person will describe the artwork they chose. Use your numbers, shapes, and colors to describe your art.



STUDENTS DO: Describe artwork to small groups.

4. TEACHER SAY: Artists like to know how people feel about their work of art. I want you to comment on the artwork you viewed today. After each student presents, the two students to the presenter's right can respond. Use the phrases "I like______" and "I wonder _______." Let's practice.

TEACHER DO: Point to a piece of artwork and **Think Aloud** to model for students using the sentence starters.

TEACHER SAY: I like the shapes in this artwork. I wonder why they used the color ___. Now when it is your turn, use the sentence starters I like... and I wonder... Great. Select one person in your circle to begin. Listen to each other carefully. Respect the opinions of others.

 **STUDENTS DO:** Offer comments on artwork. Use appropriate sentence starters.

TEACHER DO: As you circulate around the room, listen carefully to student comments. Listen for the sentence starters of I like and I wonder. Use a **Bell** to regain student attention.

TEACHER SAY: Nicely done. I like how you gave comments about someone's artwork. I wonder if some of you might become artists.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: In the last unit of study this year, called "Communication," we are practicing the many ways we can communicate. This chapter we drew, painted, sang, acted, spoke, listened, and wrote. We learned to take our time drawing and to really look for details. We used numbers to create a bar graph that communicated the result of our test. We used our language skills to give each other directions for drawing a plant and gave each other comments about our artwork. Our next chapter will explore more about art and feelings. Can ______ come help lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on five to eight others to share their favorite form of communication in this chapter. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on five to eight volunteers.

 **STUDENTS DO:** Share a favorite form of communication in this chapter.

KINDERGARTEN I

Multidisciplinary

COMMUNICATION

Chapter 2: Painting Feelings

Theme Overview

Painting Feelings

COMPONENT	DESCRIPTION	# OF LESSONS
Discover	Students discover emotions and how emotions can connect to art. Students identify and describe weather depicted in artwork and how shapes are used in art.	3
Learn	Students explore how emotions can be communicated through color and shapes. Students learn how artists communicate stories through artwork.	5
Share	Students apply colors, shapes, and feelings to communicate through art. Students share artwork and communicate feedback to other students in the class.	2

Connection to Issues



Non-Discrimination: We are alike, and yet we have differences. We can appreciate and talk about how we are similar and different. We can work together and be cooperative and collaborative.

Life Skills Addressed

Communication

DIMENSION	DESCRIPTION
Learn to Know	**Critical Thinking:** • Differentiate between similarities and differences. **Creativity:** • Flexibility in generating a diversity of ideas that are not typically expected, and be able to readjust when the situation changes. • Originality in generating new and unique ideas. **Problem Solving:** • Identify the problem.
Learn to Do	**Collaboration:** • Abide by common rules of the team. **Negotiation:** • Good listening.
Learn to Live Together	**Respect for diversity:** • Respect the opinions of others. **Empathy:** • Help others. **Sharing:** • Awareness of roles.
Learn to Be	**Self-management:** • Set clear goals. **Communication:** • Good listening. • Self-expression.

Learning Indicators

Throughout this chapter, students will work toward the following learning indicators:

READING:

Reading Comprehension: Literature

- Ask about key details with prompting and support.
- Use illustration in a story to describe the characters, setting, or events with modeling and support.
- Identify characters, setting, and major events in a story with modeling and support.

WRITING:

Narrative

- Use drawings, dictating, and writing to narrate events and a reaction to what happened.
- Recall information from experiences.

Process, Production and Research

- Orally produce complete sentences in shared language activities.
- Add drawings or visual displays to descriptions to provide additional details.

SPEAKING AND LISTENING:

Foundational Skills

- Use appropriate vocabulary, gestures, facial expressions, and body language for the situation.
- Participate in collaborative conversations with diverse partners about topics and texts with peers and adults.
- Ask questions to clear up any confusion about the topics and texts under discussion.
- Describe people, places, things, and events with relevant details and provide additional detail with prompting and support.
- Add drawings or other visual displays to descriptions to provide additional detail.
- Express thoughts, feelings, and ideas clearly.

Fluency

- Orally produce complete sentences when appropriate to task and situation.
- Use singular and plural proper and common nouns with matching verbs in basic sentences.

MATH:

Measurement

- Classify objects into given categories (for example length, weight, size, color) and sort categories by count.

SOCIAL STUDIES:

Civics

- Communicate effectively with others.
- Differentiate between acceptable and unacceptable behaviors.
- Demonstrate respect for customs and traditions.
- Communicate politely with others, using vocabulary such as please and thank you.

ART:

Drawing and Coloring

Using Materials to Create Art

- Use simple art materials to create a scene from the surrounding environment.

Design: Technology and Design

- Design geometric artwork using painting software.
- Recreate elements from the surrounding environment into geometric shapes using painting software.

Sculpting: Expressing Self Through Sculpture

- Create shapes using a variety of sculpting materials (for example, paper, ceramics, clay, dough).

Applied Arts and Handicrafts (Artworks)

Using Materials from the Surrounding Environment

- Decorate classroom with artworks they create.

EDUCATIONAL MEDIA:

Radio Broadcasting: Identifying Effective Communication Skills

- Dictate to the teacher a broadcast about the weather and include a picture to represent the weather conditions.

Radio Broadcasting: Demonstrating Appropriate Behaviors

- Cooperate with classmates in selecting items to include in a broadcast.

LIBRARY:

Types of Media in the Library: Developing Visual and Print Stories

- View digital resources related to the theme.

ECONOMICS AND APPLIED SCIENCES:

Dress Sense and Handicrafts: Importance of Clothes

- Differentiate between clothes worn in summer and winter.

INFORMATION AND COMMUNICATION TECHNOLOGIES:

- Use digital technologies (computer) appropriate to support learning.
- Use a variety of digital tools to produce and publish writing and art with guidance and support (painting software).

CH 2 Pacing Guide

LESSON	INSTRUCTIONAL FOCUS
1	DISCOVER: **Students will:** • Identify basic feelings including happy, sad, and angry. • Discover facial expressions as useful in determining how someone feels. • Develop the ability to identify and express own feelings.
2	DISCOVER: **Students will:** • Describe weather in famous artwork. • Describe feelings associated with the weather. • Create a broadcast to describe weather.
3	DISCOVER: **Students will:** • Identify shapes in artwork. • Use shapes to design artwork. • Discover how art inspires feelings.
4	LEARN: **Students will:** • Connect feelings to famous artwork. • Communicate effectively and politely.
5	LEARN: **Students will:** • Analyze parts of famous artwork. • Identify man-made and natural features in art. • Collaborate to create a picture describing the local community.
6	LEARN: **Students will:** • Orally describe a story told via artwork. • Identify characters and setting in art.
7	LEARN: **Students will:** • Observe artwork depicting family celebrations. • Identify feelings associated with celebrations.
8	LEARN: **Students will:** • Create artwork to depict a feeling.
9	SHARE: **Students will:** • Present artwork to classmates. • Identify the feelings represented in original artwork.
10	SHARE: **Students will:** • Create an art gallery. • Provide feedback to classmates.

Materials Used

Student book

Pencils

Crayons

Bell

Chart paper

Markers

Paper plates

Craft sticks

Hole punch and string/yarn or stapler

Props for weather report (optional)

Colorful construction paper

Paint (optional)

Extra paper

Shape cutouts

Colored pencils

Lesson 1 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Identify basic feelings including happy, sad, and angry. • Discover facial expressions are useful in determining how someone feels. • Develop the ability to identify and express own feelings.	• Feelings • Communicate	• Face plates using three paper plates • Three craft sticks or pencils • Student book • Pencils • Crayons • Drawing paper • Hole punch and string or stapler to fasten pages into a book

PREPARATION

Prepare face plates using three paper plates. Draw (or use computer images) a happy face, a sad face, and an angry face on the paper plates (one face per plate). If relevant, you may want to use emojis to connect to student experiences with technology. Attach each face plate to a craft stick or a pencil.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

This is a time to excite your students about the chapter. Tell them they are beginning a chapter of study called, "Painting Feelings."

TEACHER SAY: **We are starting a unit of study called "Painting Feelings." What do you think we might learn?**

TEACHER DO: Use **Calling Sticks** to choose three students to answer the question before continuing.

 **STUDENTS DO:** Predict what they will learn.

TEACHER SAY: **We will be learning about how we can communicate our feelings through art. In our last chapter, you created original works of art. You gave each other comments and talked a little about how the artwork made you feel. In this chapter, we will look at several famous works of art and try to understand what the artist is trying to communicate.**

TEACHER DO: Pass out one student book per student. Make sure each student has a pencil and some crayons.

2. TEACHER SAY: **If we want to communicate our feelings, we first have to know what they are. Today we are going to have some fun discovering and expressing some basic feelings. We will think about how art makes us feel.**

TEACHER DO: Hold up each plate, one at a time, and ask students to describe what feeling the plates show.

TEACHER SAY: **Let's start by identifying some of our feelings. Feelings are something we have every day. What feeling do you think this is showing?**

TEACHER DO: Use **Calling Sticks** to call on students to answer.

 **STUDENTS DO:** Share answers with the class.

TEACHER DO: Follow up student answers with the question "What about the face makes you think that?" Repeat for each plate.

3. TEACHER SAY: You were quick to identify those feelings. You already know a lot about feelings. Let's learn more. Let's act out happy, sad, and angry.

TEACHER DO: Lay the face plates face down on a table. Use **Calling Sticks** to call a student to the front. Ask the student to pick up one plate and to show the plate only to you. The student will act out the feeling portrayed by the face plate. Repeat several times.

TEACHER SAY: _____ please come up to join me. Pick up a face plate and only show me the face. Now, act out that feeling for the class.

 **STUDENTS DO:** Act out the feeling shown on the face plate.

TEACHER SAY: Who can guess what feeling _____is showing us?

TEACHER DO: Select volunteers to answer.

 **STUDENTS DO:** Guess the feeling being acted out.

TEACHER DO: Follow up student answers with the question "What clues did the acting give you?"

4. TEACHER SAY: Our whole bodies can communicate how we feel. As you have seen, we also often use our faces to tell people how we are feeling. Everyone, find a Shoulder Partner and stand face to face.

 **STUDENTS DO:** Stand face to face with a **Shoulder Partner**.

Note to Teacher: Look for students who do not have a partner and pair them up or create triads.

TEACHER SAY: One partner will act out happy, sad, or angry. You will only use your face to act. The other partner will make the same face.

 **STUDENTS DO:** Make a face and mirror face back.

TEACHER SAY: Now switch and let your partner make the face and you show them the same face.

 **STUDENTS DO:** Make a face and mirror face back.

TEACHER SAY: If we look closely at our friend's faces, we might be able to tell how they are feeling. Let's think about sometimes that you might be happy, sad, or angry. Listen carefully. Your best friend invites you for a play date. How do you feel? Are you happy, sad, or angry? Show me how you feel on your face.

 **STUDENTS DO:** Make a happy, sad, or angry face.

TEACHER SAY: The day you are supposed to meet, your friend's mom calls. She says that your friend is sick and cannot play today. How do you feel now? Show me how you feel on your face.

 **STUDENTS DO:** Make a happy, sad, or angry face.

TEACHER SAY: Did everyone make the same face? Why?

TEACHER DO: Use **Calling Sticks** to call on students to answer.

 **STUDENTS DO:** Share answers with the class.

TEACHER SAY: **Some people may be sad that a friend is sick. Some people may be angry that they cannot go play. It is okay to have different feelings. How do you think we should react to another person's feelings? Should we make fun of someone for being angry? For being sad? Show me a Thumbs Up if you think that is a good response.**

 **STUDENTS DO:** Show **Thumbs Up** (or not) in response.

TEACHER SAY: **No, it is not nice to make fun of other people's feelings. We respect other people's feelings. Let's make a class book of our feelings. This will help us remember that we can all feel different things. Open your student book to the page, My Feelings**

 **STUDENTS DO:** Find the correct page in the student book.

5. Note to Teacher: This activity may give you some insight to the student's life outside of school. Listen and, as needed, remind students to respect each other's feelings. If students need more literacy support, allow them to label the pictures drawn instead of completing the sentence. You may also want to **Brainstorm** *and then create a word bank of different vocabulary to help students with writing.*

 **READ ALOUD:** **Draw something that makes you happy, sad, and angry.**

 **STUDENTS DO:** Use pencil and crayons to draw pictures of what makes them happy, sad, and angry.

TEACHER DO: Allow time for students to complete the pictures. Be sure to walk around to observe and assist where needed. Review aloud the sentence starters provided under each picture, and have students use them to describe their drawings to a **Shoulder Partner**.

TEACHER SAY: **You should be proud of your drawings. Well done. Now use your pencil to write your name on the line at the bottom of the page.**

TEACHER DO: Hold up student book page, My Feelings, and point to the line after "My name is________."

TEACHER SAY: **Now, let's make a book of the feelings we have drawn. Carefully remove this page from your student guide and pass it to the end of your row. Last person in the row, please bring all the pages to me.**

 **STUDENTS DO:** Remove page from student book and pass to end of the row.

TEACHER SAY: **I am going to put all these pages together to make a class book of our feelings.**

TEACHER DO: Bind the pages together using a hole punch and string or staple them together. Leave the book in a central location for students to view in free time. The class book can also be shared with parents and other visitors to the class.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: **Today we identified and described the feelings of happy, sad, and angry. Can ______ come help lead our closing today?**

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Note to Teacher: You may want to invite a local artist to speak to the class or to share artwork later in this chapter.

Lesson 2 Overview

LEARNING OUTCOMES

Students will:
- Describe weather in famous artwork.
- Describe feelings associated with the weather.
- Create a broadcast to describe weather.

KEY VOCABULARY

- Weather report
- Evidence

MATERIALS

- **Bell**
- Props for a weather report (if available, such as umbrellas, rainboots, sunglasses, winter hat, gloves)
- Microphones (can be made by attaching a ball of aluminum foil to a cardboard tube)
- Large paper to create bar graph



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: Yesterday, we described the feelings happy, sad, and angry. We drew pictures to communicate our feelings. Today, to review, let's use words. What is something that makes you happy? Tell your Shoulder Partner.

 STUDENTS DO: Share reasons to be happy with a **Shoulder Partner**.

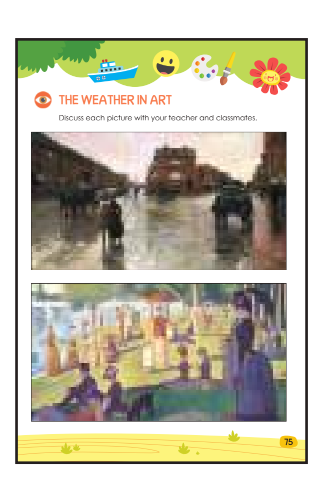
TEACHER SAY: Something that makes me happy is a warm, sunny day. Remember when we talked about weather in our earlier lessons? What are some types of weather you remember learning?

 STUDENTS DO: Share types of weather from memory.

TEACHER SAY: Very good. The weather can be rainy, sunny, windy, and even snowy in some places. Now, let's think about how the weather makes you feel. Does the weather ever make you happy, sad, or angry? Why?

TEACHER DO: Call on volunteers to share thoughts.

 STUDENTS DO: Share thoughts with friends.



2. TEACHER SAY: Today we are going to discover connections between the weather and our feelings. Let's use art to help us learn. Many artists like to use the weather in their artwork. Weather can help artists communicate a feeling.

TEACHER DO: Pass out student books. Hold up student book page, The Weather in Art.

TEACHER SAY: Let's discover what an artist is trying to communicate. Turn to the page in your student book called The Weather in Art.

 STUDENTS DO: Find the correct page in the student book.

 READ ALOUD: **Discuss each picture with your teacher and classmates.**

TEACHER SAY: I have a question for you. Listen carefully to my question, then Whisper your answer into your hand. What is the weather like in first painting? Observe the painting carefully.

 **STUDENTS DO:** **Whisper** the answer into hands.

TEACHER SAY: **Now turn to your Shoulder Partner and share what you whispered.**

 **STUDENTS DO:** Share answer with a **Shoulder Partner**.

TEACHER DO: Listen for student responses. Select two students to share answers with the class.

 **STUDENTS DO:** Share answers with the class.

TEACHER SAY: **How do you know that it is raining? What clues, or evidence, do you see?**

TEACHER DO: Use **Calling Sticks** to select three or four students to respond. Encourage students to look very carefully for clues. Answers may include: sidewalks look wet and shiny, many people are holding umbrellas, or umbrellas looks wet.

 **STUDENTS DO:** Share answers with the class.

TEACHER SAY: **You have been working hard today. Let's take a quick break to experience rain. We can use music to make it sound like rain.**

TEACHER DO: Model this activity for the students as they copy your actions.

TEACHER SAY: **Let's see if we can make it sound like it is raining. Everyone, rub your fingers together. Then, rub your two hands together, making a very soft sound. Close your eyes and listen carefully. Can you hear the rain?**

 **STUDENTS DO:** Follow teacher instructions and close eyes to listen.

TEACHER SAY: **Open your eyes. Next, very softly, clap your hands together. Slap your thighs. Stomp your feet and clap, making a lot of noise.**

 **STUDENTS DO:** Copy teacher actions.

TEACHER SAY: **Now, let's do it all in reverse until it is silent again.**

TEACHER DO: Lead students back through the combination of movements again to make the "rain storm" sound like it is subsiding.

 **STUDENTS DO:** Follow instructions for movements.

TEACHER SAY: **Do you like when it rains? Raise your hand if you like rain.**

TEACHER DO: Call on a few students to describe why they enjoy rain.

TEACHER SAY: **Look back at the painting again. How does this painting make you feel? Why? This might depend on if you like rain.**

TEACHER DO: Use **Calling Sticks** to select three or four students to respond.

 **STUDENTS DO:** Share answers with the class.

TEACHER SAY: **Now let's look at the second painting. What is the weather like in the second painting? Whisper your answer into your hand.**

TEACHER DO: Repeat the pattern of having students **Whisper** the answer into hands, then share answers with a **Shoulder Partner** before asking two or three students to share answers with the whole class.

TEACHER SAY: **That is correct; it is sunny in this painting. What clues do you see that it is not raining, but sunny in this painting?**

TEACHER DO: Use **Calling Sticks** to select three or four students to respond. Encourage students

to look very carefully for clues. Answers may include: people on boats, people standing near water, shadows on the ground, no rain falling, and people picnicking.

 **STUDENTS DO:** Share answers with the class.

TEACHER SAY: Now I have a tricky question for you. I see umbrellas in this painting. In the first painting, the umbrellas were a clue that it was raining. Why do you think some people are holding umbrellas in this painting of a sunny day?

TEACHER DO: Use **Calling Sticks** to select three or four students to respond.

 **STUDENTS DO:** Share answer with the class.

TEACHER SAY: Do you like sunny days? What kinds of things do you do on sunny days?

 **STUDENTS DO:** Share responses.

TEACHER SAY: Look at this painting again. How does this painting make you feel? Why?

TEACHER DO: Use **Calling Sticks** to select three or four students to respond.

 **STUDENTS DO:** Share answers with the class.

TEACHER SAY: Do you think how you feel has anything to do with the weather shown?

 **STUDENTS DO:** Offer ideas.

3. TEACHER SAY: You have learned a lot about the weather this year. A while ago, we wrote weather reports for a sunny day when we were helping the beetle find shade. Do you think we could create a weather report for one of the paintings? What information is important in a weather report?

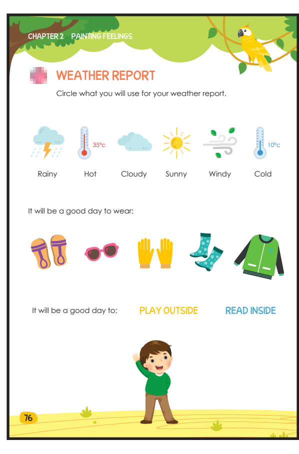
 **STUDENTS DO:** Offer ideas.

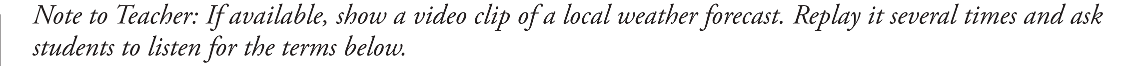
TEACHER SAY: Yes, in a weather report we describe the temperature and the type of weather. Have you ever heard a weather report offer advice for what to wear outside? What might some-one say if it were raining? "Be sure to grab __________."

 **STUDENTS DO:** Offer ideas (an umbrella, rain boots, a jacket).

TEACHER SAY: I wonder if clothes can also give us clues about the weather. Think about the clothing you see in the paintings. Do the clothes give you a hint or clue that it is hot or cold outside? Turn to a Shoulder Partner and discuss.

 **STUDENTS DO:** Share ideas with a **Shoulder Partner**.





Note to Teacher: If available, show a video clip of a local weather forecast. Replay it several times and ask students to listen for the terms below.

4. TEACHER SAY: A weather report makes a prediction about weather for the next few days. A weather report needs to tell if the weather will be sunny or cloudy, rainy or dry, windy or calm, hot or cold. Let's create a weather report for one of these two paintings. Open your student books to the page, Weather Report.

 **STUDENTS DO:** Find the correct page in the student book.

TEACHER SAY: In your rows, choose one of the weather paintings to make a weather report.

 **STUDENTS DO:** Choose one of the two paintings.

TEACHER SAY: Working together, create a weather report for the painting you selected. Look at the painting. Think about ways you can communicate what the weather is to others. Use the Weather Report page in your student book to help you.

 **READ ALOUD: Circle what you will use for your weather report.**

 **STUDENTS DO:** Circle weather conditions that apply to the chosen painting.

TEACHER SAY: Each person in your group can tell a different part about the weather. Some people in your group may hold props. Discuss your roles with the group to decide what everyone will do.

 **STUDENTS DO:** Choose what part each student will say and what props will be used.

TEACHER SAY: Once you have decided, write your initials next to your part so you do not forget.

 **STUDENTS DO:** Write initials next to part.

TEACHER SAY: Take a few minutes to practice presenting your report.

 **STUDENTS DO:** Practice giving weather report.

5. TEACHER DO: Circulate around the room as students plan a weather report. If available, have props such as umbrellas, rainboots, sunglasses, winter hat, gloves, and so on for students to use. Microphones can easily be made by attaching a ball of aluminum foil to a cardboard tube. Ring **Bell** to regain student attention. Have a desk or table area set up in a central location for students to present.

TEACHER SAY: When I call your row, please come up and present your weather report for the class.

 **STUDENTS DO:** Present weather report to the class.

TEACHER SAY: Thank you for sharing your weather reports.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today we discovered how artists use the weather to communicate feelings. We discovered that art can communicate what happens in our world. Can ______ come help lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 3 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Identify shapes in artwork. • Use shapes to design artwork. • Discover how art inspires feelings.	• Mosaic • Pattern • Circle • Square • Rectangle • Triangle	• Student book • Shape cut outs • Sample images of mosaics • Large paper to create bar graph (happy, sad, and angry as options along the bottom of the graph) • Paintings using shapes

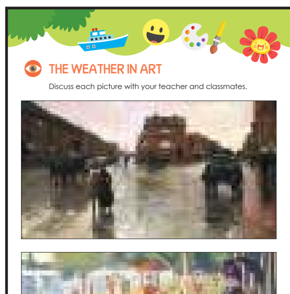
PREPARATION

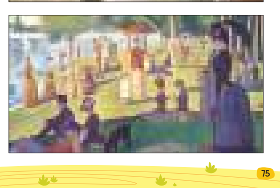
Prepare cutouts of circles, triangles, squares, and rectangles prepared for students to use to trace to create artwork later in the lesson. Have one set of shapes for every two students. Gather images of artwork that uses shapes ready to display for students. Suggested paintings include: Swinging by Wassily Kandinsky or City Scenes by Zainab Abdel-Hamid Al-Zarqani.



Discover (90 minutes)

Directions





1. Introduction: Use the start of every class to reflect and review previous learning and preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER DO: Display one of the paintings at the front of the room or have students turn back in student books to the page The Weather in Art (select one of the two pictures on that page to refer to in the next set of directions). Hang chart paper at the front of the room and draw a simple bar graph with a happy, sad, and angry face on the bottom row.

TEACHER SAY: Yesterday we discovered how paintings can communicate weather. We talked a little about how weather makes us feel. I wonder if a painting can affect how we feel. Look at this painting. Think quietly to yourself. How does the painting make you feel? Happy, sad, or angry?

TEACHER DO: Provide **Think Time**.

 **STUDENTS DO:** Quietly observe painting and personal mood.

2. TEACHER SAY: We can count and graph to show our different feelings. If this painting makes you feel happy, stand up.

TEACHER DO: Move around and orally count the students standing up. Invite students to count along with you. After counting the final student, ask "How many friends felt happy?" Students should be able to name the last number counted. Record that amount on the bar graph. Repeat the process to record how many students feeling sad and angry.

Note to Teacher: If students struggle with counting, encourage students to attempt to count along with you. Students should be able to interpret heights of the bar graph no matter what numbers are in each column.

TEACHER SAY: Now, let's read our bar graph. Which feeling did the most students feel? Which feeling did the least number of students feel?

 **STUDENTS DO:** Identify the most and least based on the bar graph.

3. TEACHER SAY: In our paintings yesterday, we saw clues about the weather, people, and places. Sometimes art is made up of only shapes. Today we will look at shapes and discover how shapes can help us create art.

TEACHER DO: Draw a circle, square, triangle, and rectangle on chart paper at the front of the room.

TEACHER SAY: We have learned about shapes before. We have seen triangles, squares, circles, and rectangles. I need you to help me remember which shape is which. Who can come point to one of these shapes and tell us the name?

TEACHER DO: Take student volunteers to identify each shape and name it for the class.

 **STUDENTS DO:** Name each shape on the board.

TEACHER SAY: Shapes are important because they help create the world around us. Let's start by finding shapes in our classroom. Everyone stand up. When I say go, I want everyone to move to a circle in the classroom. Everyone put a finger in the air. Draw a circle.

 **STUDENTS DO:** Draw a circle in the air.

TEACHER SAY: Great. Ready, go find a circle in the classroom.

*Note to Teacher: If you do not want students moving around the room you can play "***I See Very Clearly***" and identify shapes in the room. Then, students can look from seats to guess what you see.*

TEACHER DO: Repeat for each shape. After students get to a shape found in the room, use **Calling Sticks** to have two or three students share what they found.

 **STUDENTS DO:** Move to find the named shape in the classroom.

TEACHER DO: Move students back to seats after finding each shape in the classroom. Then, pass out student books and a pencil.



4. TEACHER SAY: Shapes make up our world. Shapes also make up amazing works of art. Open up your books to the page called Shapes In Art.

Note to Teacher: Art with shapes is also prevalent in various forms of Islamic art. You can enhance the lesson with geometric art found in architecture, ceramics, textiles, and other familiar items.

TEACHER SAY: This picture shows a tile MOSAIC. Say that word with me.

 **STUDENTS DO:** Repeat "MOSAIC."

TEACHER SAY: A mosaic is made by putting together small pieces of material such as glass, stone, or tile. This is a mosaic made from tiles. We can see many shapes in this mosaic. Who can name a shape they can see?

TEACHER DO: Call on student volunteers to identify shapes in the artwork.

 **STUDENTS DO:** Volunteer to identify shapes in the artwork.

 **READ ALOUD: Circle the shapes named by your teacher.**

TEACHER SAY: I will name a shape. I want you to find as many of that shape as you can. Let's start by circling all the circles you can find.

 **STUDENTS DO:** Circle the shape named by the teacher.

TEACHER DO: Call out each shape one at a time: circle, square, rectangle, and triangle. If possible, have a larger version of the picture displayed or projected at the front of the room. After giving

students time to find each shape, find that shape together on the larger printout of the artwork. Extend the lesson by counting how many of each shape you were able to find.

Note to Teacher: There is an excellent math opportunity to refer to repeated shapes, called tessellations, which is a geometry concept students will study in later years. There is no need to refer to the term "tessellation," but by calling attention to the repetition of shapes you will be foreshadowing concepts and creating mental images that students may recall in later years.

5. TEACHER SAY: **You did a great job finding and counting all the different shapes. Let's learn more about how artists use shapes to make artwork. Today YOU will use shapes to create a beautiful work of art. Then you can share what you created.**

TEACHER DO: Pass out shapes stencils, pencils, crayons, and student books and show students the page called My Mosaic. If you have pattern blocks, you may also pass these out so students can build their design in 3D before drawing it on the paper.

Note to Teacher: If available, use a painting software to have students create a mosaic with shapes on the computer. At this time, if you have other examples of shapes in art to share with students, display the images to the class. You can discuss the shapes and colors the artists use to create their art.

TEACHER SAY: **Open your books to the next page, My Mosaic.**



READ ALOUD: **Create a picture using shapes.**

TEACHER SAY: **You can use the shapes I have given you to TRACE.**

TEACHER DO: Model how to trace a shape onto the page.

TEACHER SAY: **You can also try to draw the shapes all by yourself. You will draw or trace all of your shapes with a pencil first. Then, you can color in your shapes. Who can tell the class what they are supposed to do?**



STUDENTS DO: Repeat the directions to the class.

TEACHER SAY: **When we finish, we can share our art. You may begin.**



STUDENTS DO: Create art using shapes and colors.

TEACHER DO: As students work, move around the room to support students as they draw and trace. Prompt students to explain the color choices in the artwork. Prompt students to think about creating a pattern as in the tile mosaic example. This activity will provide a preassessment of student's connection of colors to feelings which will be extended in tomorrow's lesson. After students complete a picture, put students into groups of three or four.

6. TEACHER SAY: **Thank you for working so hard to complete your shape picture. Now, using Talking Sticks, you will get a chance to share your art. When you have the Talking Stick, you will describe the shapes you used to create your picture.**

TEACHER DO: Pass out **Talking Sticks** to each group and prompt students to begin sharing.



STUDENTS DO: Share pictures with group members and actively listen to others.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: **Today we used shapes and colors to create our own artwork. Can ______ come help lead our closing today?**

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.



STUDENTS DO: Share a new idea learned from today's lessons.

Lesson 4 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Connect feelings to famous artwork. • Communicate effectively and politely.	• Swirl • Crescent	• One construction paper page of each of the following: red, orange, yellow, green, blue, and violet (purple) • Painting: *Starry Night* by Vincent Van Gogh • Large paper to create bar graph (happy, sad, and angry as options along the bottom of the graph)

PREPARATION

Tape the colored pieces of construction paper on the walls around the room.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER DO: Display one of the shape paintings used in the previous lesson at the front of the room. Hang a new bar graph with three emotions (happy, sad, angry) along the bottom axis nearby.

TEACHER SAY: We have learned that artists can communicate feelings through weather. Yesterday, we explored how artists communicate through shapes. I wonder if shapes can affect how we feel. Look at this painting. Think quietly to yourself. How does the painting make you feel? Happy, sad, or angry?

TEACHER DO: Provide **Think Time**.

 **STUDENTS DO:** Quietly observe painting and personal mood.

TEACHER SAY: We can count and graph to show our different feelings. If this painting makes you feel happy, stand up.

TEACHER DO: Move around and orally count the students standing up. Invite students to count along with you. After counting the final student, ask "How many friends felt happy?" Students should be able to name the last number counted. Record that amount on the bar graph. Repeat for the feelings sad and angry.

TEACHER SAY: Let's read our bar graph. What did the most students feel? What did the least number of students feel?

 **STUDENTS DO:** Identify the most and least based on the bar graph.

Note to Teacher: Students are not expected to orally count beyond 10 independently. Encourage students to attempt to count along.

2. TEACHER SAY: Yesterday, we used shapes to design artwork. We just discussed how shapes can be connected to feelings. Today we will explore how COLORS can be connected to feelings. On the wall there are some colors. Let's review our colors. When I point to the color, say the name of the color out loud.

TEACHER DO: Point to each color and name the color.

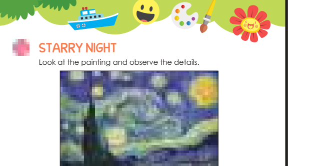
 STUDENTS DO: Name each color.

TEACHER SAY: **We have been talking about feelings and art. Do you think certain colors can make you feel one way or another? Do some colors make you happy? If yes, stand and walk to a color that makes you happy.**

 STUDENTS DO: Stand near a color of construction paper.

TEACHER DO: Repeat the question and direction for "sad" and "angry."

3. TEACHER SAY: **Did everyone choose the same color each time? (Choral response) No, and that is okay. Remember, it is important to respect each other's feelings and choices. Let's look at a painting and see what you think about the colors the artist chose.**



TEACHER DO: Pass out student books. Hold up student book page *Starry Night*.

TEACHER SAY: **Turn to this page in your student book. It is called *Starry Night*.**

 STUDENTS DO: Find the correct page in the student book.

TEACHER SAY: **What colors do you see a lot of in this painting?**

TEACHER DO: Use Calling Sticks to select three or four students to respond.

 STUDENTS DO: Share answers with the class.

TEACHER SAY: **How does this painting make you feel? Why?**

TEACHER DO: Use Calling Sticks to select three or four students to respond.

 STUDENTS DO: Share answer with the class.

TEACHER SAY: **Artwork can make people feel different things, and we respect that. What lines and shapes do you see in this painting?**

TEACHER DO: Use Calling Sticks to select three or four students to respond.

 STUDENTS DO: Share answer with the class.

TEACHER SAY: **Up in the corner, there appears to be a crescent shape. What does this crescent represent? (The crescent represents the moon.)**

TEACHER DO: Use Calling Sticks to select a few students to respond.

 STUDENTS DO: Share answers with the class.

TEACHER SAY: **We can use math to learn more about the painting. Let's count how many stars are in the painting. Count with me.**

TEACHER DO: Point to and count the number of stars aloud.

 STUDENTS DO: Count the stars aloud.

TEACHER SAY: **Are the stars all the same or different?**

TEACHER DO: Use Calling Sticks to select a few students to respond.

 STUDENTS DO: Share answer with the class.

4. TEACHER SAY: **The name of this painter is Vincent Van Gogh. I want you to imagine that you are standing next to him on a hill while he is painting. Is it day or night?**

TEACHER DO: Use **Calling Sticks** to select three or four students to respond. Ask students to justify answers by asking "Why do you think that?"

 **STUDENTS DO:** Share answers with the class.

TEACHER DO: Continue asking questions for students to answer as they visualize the scene of Van Gogh painting. Ask questions such as, "Are you warm or cold?" "Is there wind?" "How do you know?" Use **Calling Sticks** or have students turn to discuss answers with **Shoulder Partner**s.

TEACHER SAY: What is the dark area right in front of you? Turn to tell a Shoulder Partner what you think the dark area is.

 **STUDENTS DO:** Share ideas with a **Shoulder Partner**.

TEACHER SAY: The dark area represents cypress trees. The artist made the trees large because they are close, while the village is far away. Turn to a Shoulder Partner and describe something else you see in the painting.

 **STUDENTS DO:** Take turns sharing with **Shoulder Partner**.

5. TEACHER SAY: Now it is your turn to be the artist. In the box on the *Starry Night* page in your student book, choose either day or night. Draw the sky. Use colors, lines, and shapes that communicate how you feel.

 **STUDENTS DO:** Color a night or day sky.

TEACHER DO: Circulate around the room as students color. Prompt the students to explain why they chose their colors.

6. TEACHER SAY: Many people like to talk about how artwork makes them feel. Let's practice how we can communicate with others effectively and politely. Your conversation might sound like this, "This painting makes me sad. The colors are dark, and I don't like the dark. It makes me scared." Your partner might reply, "I like how the lines swirl. It makes me think about dancing." With your Shoulder Partner, take turns talking about the *Starry Night* painting and your drawing. Tell your partner how these pieces of artwork make you feel and why.

 **STUDENTS DO:** Take turns sharing with **Shoulder Partner**.

TEACHER DO: Circulate around the room and listen to partners describe feelings and paintings. Prompt students to include details about the colors, shapes, and lines. Remind students to respect the feelings that others describe. As conversations end, display a third bar chart with emotion faces on the bottom axis.

7. TEACHER SAY: We discussed how this painting made us feel earlier, but we did not record our answers. Let's do that now. Look at the *Starry Night* painting one more time. Does it make you feel happy, sad, or angry? We can count and graph to show our different feelings. If this painting makes you feel happy, stand up.

TEACHER DO: Move around and orally count the students standing up. Invite students to count along with you. After counting the final student, ask "How many friends felt happy?" Students should be able to name the last number counted. Record that amount on the bar graph. Repeat for the feelings sad and angry.

TEACHER SAY: Now, let's read our graph. What did the most students feel? What did the least number of students feel?

 **STUDENTS DO:** Identify the most and least based on the bar graph.

Note to Teacher: Students are not expected to orally count beyond 10 independently. Encourage students to attempt to count along.

8. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: **Today we learned about the famous painter, Vincent Van Gogh's *Starry Night* painting and how colors, lines, and shapes can make us feel different things. Can ______ come help lead our closing today?**

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 5 Overview

LEARNING OUTCOMES

Students will:

- Analyze parts of famous artwork.
- Identify man-made and natural features.
- Collaborate to create a picture describing the local community.

KEY VOCABULARY

- Man-made feature
- Natural feature

MATERIALS

- Chart paper for a **T-Chart**
- Large white paper
- Crayons, markers, and/or paint

PREPARATION

Before class, if possible, try to arrange for a local artist to visit your classroom. Ideally the artist would be able to create a painting of the local community with the assistance of your students. If this is not possible, the lesson is written to have the teacher lead the class in creating a collaborative picture.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

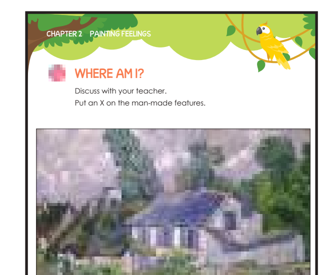
TEACHER SAY: Yesterday we made connections between colors and feelings. We thought about how artists can use color to communicate feelings. Who can name a color and a feeling they connect to that color?

TEACHER DO: Use **Calling Sticks** to have students share connections between color and feeling.

TEACHER SAY: We know that artists communicate through weather, shapes, and color. Today we will think about how and what else an artist can communicate. We will observe a painting and describe the location it shows. Another word for the location is the SETTING. Where else have you heard the word SETTING?

 **STUDENTS DO:** Offer ideas.

TEACHER SAY: That is right. We talk about SETTING when we read a book. An author can describe the SETTING—or where a story takes place—using words. An artist communicates about a place by adding details to the background. Let's learn more about how artists communicate setting.



2. TEACHER DO: Pass out student books and a pencil. Hold up the book to show the page Where Am I?

Note to Teacher: Another painting that can be used is called La Nil A El Derr by Mahmoud Said, an Egyptian artist. The following script is for the painting in the student book, but you can choose to find another work of art and lead the conversation based on the natural and man-made features in that painting.

TEACHER SAY: Open your book to the page called Where Am I? This is another painting by Vincent Van Gogh. Take a moment to observe the painting. What do you see?

 **STUDENTS DO:** Offer observations.

TEACHER SAY: Now, look for clues to where the setting of the painting is.

TEACHER DO: Provide **Think Time**.

TEACHER SAY: Who can name something they see that is part of the setting?

TEACHER DO: Use **Calling Sticks** to invite students to name parts of the painting. Elicit several responses and encourage students to name many different items in the painting.

 **STUDENTS DO:** Name objects and details in the painting.

Note to Teacher: If possible, have a large version of the painting displayed in the front of the room. As students name parts of the painting, you can add labels. This will allow writing to be brought into the lesson. You may also choose to display this or another painting in digital form. As students name different parts of the painting you could use technology applications to annotate on the screen, if the technology is available.

TEACHER SAY: Great job looking for details in the picture. Now, using those details can you describe the setting of the painting?

 **STUDENTS DO:** Call out a response.

3. TEACHER SAY: Yes, the painting is in a neighborhood. Now, let's look at the painting with a new question in mind. We have learned about things that are natural and things that are made by humans. Who remembers what "man-made" means?

 **STUDENTS DO:** Volunteer to define or provide an example.

TEACHER SAY: Yes, if something is man-made, it requires people to design and build it. A natural feature is something that is happens all by itself. People do not make natural features. Settings often include both man-made and natural features. Look at the painting again and think quietly. Do you see anything that is made by humans?

 **STUDENTS DO:** Observe the painting quietly.

 **READ ALOUD: Put an X on the man-made features.**

TEACHER SAY: Let's identify the man-made and natural features in the setting. Start by putting the X on any man-made feature you can see.

 **STUDENTS DO:** Draw an X on man-made features.

TEACHER SAY: Who can share where they drew an X?

 **STUDENTS DO:** Volunteer to identify the man-made features.

TEACHER SAY: Now look at the painting again. Turn and talk to a Shoulder Partner about the natural features you can see.

 **STUDENTS DO:** Identify natural features with a **Shoulder Partner**.

Note to Teacher: To add in a math connection, you can have students count the number of man-made and natural features located in the artwork.

TEACHER DO: After allowing students to share, use **Calling Sticks** to share as a whole class.

Note to Teacher: For the next activity have a large piece of white paper to hang at the front of the room. If you plan to paint, have paint prepared. If you want to draw and color have crayons or markers ready to use. Community can be defined as the school yard, the immediate surrounding neighborhood, or a well-known, central area such as a town square or park.

4. TEACHER SAY: Wow, you did a great job identifying natural and man-made features in the painting. I wonder what a painting of our community would look like. Let's see if we can make one together. First, we need to list the natural and man-made features we can see in our community. Let's take a moment of Think Time to think about the features in our community.

TEACHER DO: Provide **Think Time**. Hang chart paper at the front of the room and create a **T-Chart**. Label one side “Natural Feature” and the other “Man-made Feature.” Use **Calling Sticks** to have students list features of the local community. Add student ideas to the **T-Chart**.

 **STUDENTS DO:** Identify natural and man-made features in the community.

TEACHER SAY: **Let’s share our local community with others in a painting. We will put these features into our setting.**

TEACHER DO: Invite students to help create the picture with you, adding the features listed on the **T-Chart**.

 **STUDENTS DO:** Participate in creating the painting of the local community.

Note to Teacher: This is an opportunity to incorporate language such as near, far, next to, in front, and so on to describe where to put features in the painting.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

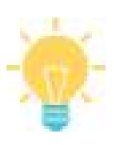
TEACHER SAY: **Today we worked hard to identify features of our communityand communicate them through our art. Can ______ come help lead our closing today?**

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 6 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Orally describe a story told via artwork. • Identify characters and setting in art.	• Setting • Characters	• Paintings depicting a setting without characters • Student book • Crayons



Learn (90 minutes)

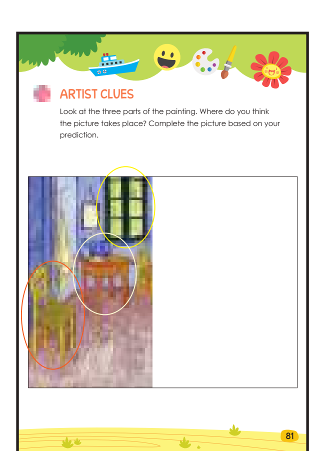
Directions

1. Introduction: Use the start of every class to reflect and review previous learning and preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: **Yesterday, we studied how an artist communicates information about a location. Who can remember some man-made and natural features we added to our picture of the community?**

TEACHER DO: Have the artwork created yesterday hanging in the front of the room. Use **Calling Sticks** to have students share what was communicated in the art.


STUDENTS DO: Review features included in collaborative painting.



2. TEACHER SAY: **Today we will look at how artists can communicate a story in their paintings. We are going to start by examining the setting details of one more painting by Vincent Van Gogh. Your job is to look at parts of the painting and try to figure out where it is. Open your book to the page called Artist Clues.**

Note to Teacher: The following conversation involves the painting in the student book by the artist Van Gogh. Any painting that depicts a setting or scene without people could be used in this lesson. Have the painting displayed with only small portions of the painting visible to allow students to put the clues together to infer where the painting takes place. You can use smaller pieces of paper to cover portions of the painting so that students can only see parts of the artwork at one time.


STUDENTS DO: Find the correct page in the student book.


READ ALOUD: **Look at the three parts of the painting. Where do you think the picture takes place?**

TEACHER SAY: **I will give everyone some Think Time to look at the three parts of the painting. Think about where you could find these things. What setting would make sense?**

TEACHER DO: Provide **Think Time**.


STUDENTS DO: Observe the three parts of the painting.

TEACHER SAY: **Now turn to your Shoulder Partner and share where you think the setting of this painting is.**


STUDENTS DO: Share answer with a **Shoulder Partner**.

TEACHER DO: Listen for student responses. Prompt students to share ideas and reasoning. Use **Calling Sticks** to have several students share predictions.



READ ALOUD: Complete the picture based on your prediction.

TEACHER SAY: I heard a lot of great ideas. Communicate your ideas by finishing the picture. Starting with the window, chair, and small table you see, draw the rest of the setting. Think about the other details you imagine.

 **STUDENTS DO:** Draw to complete the setting.

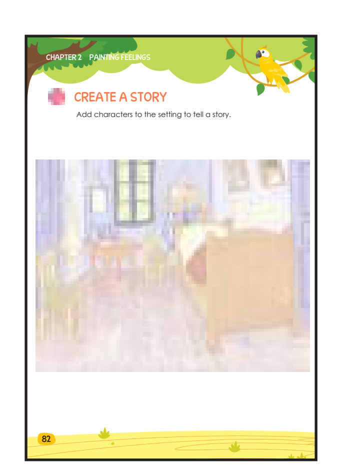
TEACHER DO: Encourage students to draw a setting that makes sense. For example, they might be able to see a chair at the beach but they would not be able to see a window.

3. TEACHER SAY: I like the way each of you drew details in your picture to show your setting. Let's share our pictures to share our ideas. You will leave your book open at your seat for a Gallery Walk. We will stand up and quietly walk around to the room to see the different settings.

 **STUDENTS DO:** Leave books open and quietly walk around the classroom to observe other's work.

Note to Teacher: If you do not want to have students move around the room, you can have students sit with a **Shoulder Partner** *to share the completed pictures.*

TEACHER DO: Prompt students to explain what is being communicated in the completed pictures.



4. TEACHER SAY: Thank you for putting the clues together, adding more details and creating a setting. Turn to the next page in your book called Create a Story. On this page you can see the actual painting. Was your idea of the setting similar to or different from the real painting? Talk with your Shoulder Partner.

 **STUDENTS DO:** Observe the painting on the next page and discuss predictions with **Shoulder Partner**.

TEACHER SAY: Point to the chair you saw on the previous page. Point to the table. Point to the window. What other details did the artist include in the painting?

 **STUDENTS DO:** Point to parts of the painting, then share details observed in the painting.

TEACHER DO: Use **Calling Sticks** or call on student volunteers to share details from the painting. Students should notice the bed, blankets, door, and so on.

5. TEACHER SAY: We can see the setting of the painting is a room. We see the furniture and decorations in the room. We do not see any characters. What are the characters in a story?

 **STUDENTS DO:** Offer ideas.

TEACHER SAY: That's right. Characters are the people, or sometimes animals, that a story is written about. Look at this room again. If there were people or animals in the painting, what do you think they would be doing?

TEACHER DO: Provide **Wait Time** before allowing students to share ideas with a **Shoulder Partner**.

Note to Teacher: If students struggle with thinking of original characters, find a painting that shows active people and encourage students to compose a story about what is happening. Paintings by Carmen Lomas Garza, which are referenced in tomorrow's lesson, would be relevant to use here as well.

TEACHER SAY: Turn to a Shoulder Partner and share what people could be doing in this setting.

 **STUDENTS DO:** Share ideas with a **Shoulder Partner**.

TEACHER SAY: Why are the characters there? What will they do next?

 **STUDENTS DO:** Share ideas with a **Shoulder Partner**.



READ ALOUD: Add characters to the setting to tell a story.

TEACHER SAY: Now that you have a story in mind, draw your characters in the painting. By adding characters, you are helping to communicate a story. When you are done, you can share your story with your friends.

 **STUDENTS DO:** Draw characters to tell a story.

TEACHER DO: As students work, walk around the room. Ask students to verbalize what the characters in the drawing are doing to help them practice telling the story.

6. TEACHER SAY: Now that you have added characters to the setting, communicate your story to a partner. Everyone will turn to a Shoulder Partner and take turns telling the story. Remember to communicate WHO is in your story and WHAT the characters are doing.

 **STUDENTS DO:** Turn and share stories with a **Shoulder Partner**.

TEACHER DO: Listen as students share stories. If time permits, students can share with a new **Shoulder Partner**.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today we imagined a story in the setting of a painting. We added characters to illustrate our stories. Can ______ come help lead our closing today?

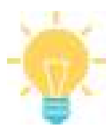
TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 7 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Observe artwork depicting family celebrations. • Identify feelings associated with celebrations.	• Celebration • Crescent • Fanous	• Student book • Crayons • Painting of family celebrations such as artwork by Carmen Lomas Garza.

PREPARATION
Before beginning, select at least one painting depicting a celebration. Carmen Lomas Garza has several paintings that show a variety of community celebrations, such as *Barbacoa para Cumpleaños*. You can have the picture in large format displayed or projected in the front of the room, or several prints for students to observe.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: Yesterday, we talked about how art can communicate a story. Today, we will discover and observe how a story shown in art makes us feel The painting we will be observing today shows a celebration. Let's think about our own experience for a moment. What does your family celebrate?

TEACHER DO: Use **Shake It, Share It, High Five** to encourage whole class participation.

 **STUDENTS DO:** Walk around room and shake hands, share a family celebration, and high five each other before walking around and sharing again.

TEACHER SAY: I heard many people describe celebrations like birthdays, weddings, new babies, Ramadan, Christmas, and Eid Al Fitr (add others as appropriate).

TEACHER DO: Refer to the painting selected for the lesson.

2. TEACHER SAY: Look at this painting. Who do you see in the picture? What are they doing?

TEACHER DO: Use **Calling Sticks** to select three or four students to respond.

 **STUDENTS DO:** Share answers with the class.

TEACHER SAY: What do you think they are celebrating?

TEACHER DO: Use **Calling Sticks** to select three or four students to respond.

 **STUDENTS DO:** Share answers with the class.

TEACHER SAY: You discussed some celebrations you have experienced. Who do you usually see at your family celebrations? Turn and tell your Shoulder Partner.

 **STUDENTS DO:** Share with a **Shoulder Partner**.

TEACHER SAY: We have talked a lot about how art makes us feel. Consider this painting. How does it make you feel? Why? Turn and tell your Shoulder Partner.

 **STUDENTS DO:** Share with a **Shoulder Partner**.

TEACHER DO: Use **Calling Sticks** to select three or four students to respond.

 **STUDENTS DO:** Share answers with the class.

TEACHER DO: Continue the conversation alternating between using **Calling Sticks** and having students turn to talk with **Shoulder Partners**. Prompt students with questions such as "What do you notice about the colors the artist used?" "Do you think the people in the painting are having fun?" "What makes you think that?" "What decorations do you see in the painting?"

3. TEACHER SAY: Many famous artists capture the way we live in paintings. We often study paintings and artwork made by ancient people to understand how people lived long ago. Art is also found in the decorations we use when we celebrate important events. The colors used in decorations can give us clues to the mood of the celebration. Do any colors remind you of your favorite holidays?

TEACHER DO: Use **Calling Sticks** to select several students to respond. Extend the conversation to explore colors associated with feelings and celebrations based on student answers.

 **STUDENTS DO:** Share answers with the class.

Note to Teacher: Adjust the following conversation and activity based on your students and local culture. Students who do not celebrate Ramadan may choose to color the pictures for any celebration. Alternatively, they may use the back of the page to draw and color other symbols of celebration. You may need to help draw a sample outline or provide forms for students to trace.

4. TEACHER SAY: Remember when we looked at the crescent shape in the *Starry Night* painting? A crescent shape looks like a piece of the moon cut out. The crescent is used in decorations for many celebrations. Hold up your hand and draw a crescent in the air.

TEACHER DO: Observe students and encourage students to help each other.

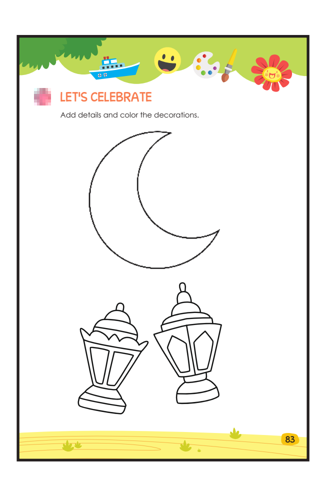
 **STUDENTS DO:** Draw the shape of a crescent in the air.

TEACHER SAY: During Ramadan, colorful lanterns are displayed in many shops. Fanous means light or lantern. People often buy the lantern to decorate their homes. Have you ever made a lantern from a tin can? Have you ever decorated with lanterns?

TEACHER DO: Call on volunteers. Encourage students to think beyond Ramadan, to include outdoor parties, festivals, and so on.

 **STUDENTS DO:** Share stories about fanous.

5. TEACHER SAY: Let's use our understanding of color and shapes to make some decorations we can use in our family celebrations.



TEACHER DO: Pass out student books. Hold up student book page Let's Celebrate.

TEACHER SAY: Turn to this page in your student book. It is called Let's Celebrate.

 **READ ALOUD: Add details and color the decorations.**

 **STUDENTS DO:** Add details and color pictures.

TEACHER SAY: Remember to use colors to represent how you feel when celebrating with family.

TEACHER DO: Circulate around the room to offer encouragement and ask questions as students work. If time permits, you can have students share with a **Shoulder Partner** or using **Shake It Share It High Five**.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

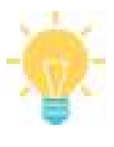
TEACHER SAY: Today we explored a famous painting of a family celebration and talked about how the artist communicated feelings through the painting. We also thought about color and shapes as we made decorations for a family celebration. Can ______ come help lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share what you enjoyed about today's lesson. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share something they enjoyed about today's lessons

Lesson 8 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Create artwork to depict a feeling.	• No new vocabulary; review previous terms as needed	• Pieces of white paper for students • Pencils • Crayons • Markers • Colored pencils • Watercolors and paint-brushes, if available



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: We have spent the past several days examining how art can communicate. What are some different ideas people can communicate through art?

TEACHER DO: Use **Calling Sticks** to have students identify ideas that are communicated: feelings, locations, setting and characters, weather, celebrations, and traditions.

2. TEACHER SAY: Today we will have a chance to create our own artwork to communicate an idea. You can communicate something that has happened to you. You can also communicate how you are feeling. Let's take a moment of quiet Think Time to think of an event from your life. This can be a time you felt happy, sad, or angry.

TEACHER DO: Provide **Think Time**.

TEACHER SAY: Share the event you remember with a Shoulder Partner. As you share, tell your partner about the setting of your event and the people who were there.

 **STUDENTS DO:** Share an event with a **Shoulder Partner**.

TEACHER DO: As students share, listen and probe students to describe details, such as "Where were you?" "Who was with you?" "How were you feeling?" Bring students back together using a **Countdown**.

TEACHER SAY: Remember, you will also communicate how this event made you feel. We have learned that shapes, colors, and weather can help communicate feelings. Think about the details you will use. Let's find people to work with on this project. If you felt happy in your event, stand up.

 **STUDENTS DO:** Stand up if showing a happy event.

TEACHER DO: Divide the students standing into groups of three or four. Repeat the question and divide students into groups planning to depict an event that made them feel sad and angry.

TEACHER SAY: Let's quickly review. How have we seen feelings communicated in artwork?

 **STUDENTS DO:** Volunteer to share ideas learned so far in the chapter.

TEACHER DO: Call on students to identify ways artists have communicated feelings in artwork. Examples should include colors, shapes, setting, or weather.

TEACHER SAY: **Now in your new small group, share how you plan to show your feeling in your painting.**

 **STUDENTS DO:** Share ideas on how to communicate a feeling in the painting.

TEACHER DO: After students finish sharing, you can have them return to original seats. Hang a large piece of paper on the board to draw an example.

3. TEACHER SAY: **I will show you how I could start my own picture.**

TEACHER DO: Model how to begin putting ideas onto paper. You can create a simple sketch. Use a **Think Aloud** to discuss the event you want to communicate. Examples could include: the first day of school (feeling nervous), a family celebration (feeling happy), or losing/breaking a favorite item (feeling sad/angry). Model how you would identify where you were and who was with you. Do not worry about your picture looking perfect. Briefly model drawing a couple of details. Then discuss how you are feeling during the event and the colors you could choose to help communicate the feeling. Once you finish modeling, pass out one piece of paper to each student in the classroom. If possible, have watercolors or other paint for students to use. If this is not possible, you can provide students with crayons, markers, and colored pencils to create their picture.

4. TEACHER SAY: **You will now have a chance to create your very own work of art. You will communicate an event from your life. You can use _______ (name art materials you have for students) to create your artwork. Draw with a pencil first, then fill in colors.**

 **STUDENTS DO:** Create a picture to show an event and feeling.

Note to Teacher: If you want to structure the independent work time more, students can be directed to create an outline of their picture first, then add details to the setting, then add characters. Pause periodically to share initial ideas and early drawings, then continue facilitating the work time.

TEACHER DO: Move around the room as students create, supporting where necessary. As students finish, select an area in the room for the artwork to dry. Make sure students write names on the artwork. If time allows, students can add a title to the artwork. You can either write the title for each student who finishes or allow each student to attempt to write titles independently.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: **Today we created our very own artwork. Tomorrow we will present our work to our friends. Can ______ come help lead our closing today?**

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 9 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Present artwork to classmates. • Identify feelings represented in artwork.	• No new vocabulary; review previous terms as needed	• Optional video resource: Respect for Diversity • Paper plates or pre-cut paper circles, two for each student • Crayons • Artwork created in Lesson 8



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: **Yesterday each of you created your own artwork. Who can share what we created artwork about?**

TEACHER DO: Call on one or two students to share.

 STUDENTS DO: Share descriptions of artwork.

TEACHER SAY: **Today you will have a chance to share your artwork to friends in a group. You will also try to identify the feeling that your friends communicated in their artwork.**

TEACHER DO: Pass out two precut circles, or two paper plates, and crayons to each student.

2. TEACHER SAY: **Remember on our first day of the chapter we used different pictures of faces to show feelings? You will use faces again today to communicate to the friends in your group the feeling you think is being communicated in the artwork. To start, you will each need to draw a happy, sad, and angry face on your circles.**

TEACHER DO: Model how students should draw a happy face on one side of a circle, a sad face on the other then an angry face on the second plate or circle.

 STUDENTS DO: Draw the three faces.

TEACHER SAY: **Hold up and show me your happy face. Hold up your sad face. Hold up your angry face.**

 STUDENTS DO: Display the correct feeling.

TEACHER DO: Pass out students' artwork from the previous day.

3. TEACHER SAY: **Today, you will share your artwork with a small group. We will use Talking Sticks to help us take turns. When it is your turn, show your artwork to your group. Describe what is happening in your artwork. DO NOT tell your group the emotion you wanted to show. After you have shared, your group will hold up a plate to show the feeling your artwork is communicating. Then, you can describe the feeling you were communicating. Who can describe what you will do when you have the Talking Stick?**

 **STUDENTS DO:** Volunteer to describe how to share artwork.

TEACHER SAY: Great. Who can describe what you will do when you do NOT have the Talking Stick?

 **STUDENTS DO:** Volunteer to describe how to hold up a feeling picture and how to politely listen.

Note to Teacher: Take the opportunity now to reinforce polite listening behaviors for students in the group. If necessary, model polite listening behaviors as a whole class.

TEACHER DO: Divide students into groups of four to five. Pass out a **Talking Stick** to each group. As students take turns sharing, move around to support groups who might need extra help listening and taking turns. Encourage students to explain how they used color or details to communicate the event. When everyone has shared, collect artwork and bring the class back together. If time permits, you can choose to put students into new groups to share. Use **Calling Sticks** to allow students to share at the front of the room or work together to hang and display artwork around the room.

TEACHER SAY: Thank you so much for using your artwork to help communicate about an event in your life and a feeling connected to the event. Thank you for listening politely to your friends.

4. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today we were able to present our artwork and identify feelings being communicated. Can ______ come help lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 10 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Create an art gallery. • Provide feedback to classmates.	• **Gallery Walk**	• **Bell** • Artwork created in Lesson 8

PREPARATION
Hang student works of art from Lesson 8 in the classroom and/or hallway.



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: Yesterday, we presented our own artwork to a group of friends. What did you enjoy about that activity?

TEACHER DO: Call on volunteers.

 **STUDENTS DO:** Share thoughts with the class.

2. TEACHER SAY: Today you will get a chance to observe everyone's artwork. I have created an art gallery for our class. Below each piece of artwork, there is a paper for you to draw how the artwork makes you feel. Select one piece of artwork that makes you happy, one that makes you sad, and one that makes you angry. Do not draw on the artwork, instead, draw your happy, sad, or angry face on the paper below the picture.

Note to Teacher: If the size of your class permits, you may choose to let them draw faces for each piece of artwork. In larger classes, have the students choose only three pieces of artwork.

TEACHER SAY: Let's take a Gallery Walk. I want you to look for details in the artwork. Look at the shapes and colors used. Think about how the artwork makes you feel. Remember to draw faces on the blank pages to respond to the work.

TEACHER DO: Line students up and allow them to walk quietly past each piece of artwork. Remind students that on a **Gallery Walk**, they pretend to be in a museum and use appropriate behavior for visiting.

 **STUDENTS DO:** Walk quietly past each piece of artwork, drawing faces to respond to some pieces.

TEACHER DO: When finished with the **Gallery Walk**, ask half of the class to stand next to his or her artwork. Then, ask the other half of the class to find a partner who is standing next to his or artwork.

3. TEACHER SAY: Now you are either standing next to your work ready to share or you are standing and ready to listen. If you are next to your own artwork, you will share your art-work. Your partner will listen politely. Then, the partner who is listening will comment on the

artwork. Artists like to know how people feel about their work. You will share your comments using the phrases "I like______" and "I wonder _______." Let's practice.

TEACHER DO: Point to a piece of artwork and **Think Aloud** to model for students using the sentence starters.

TEACHER SAY: I like the shapes in this artwork. I wonder why the artist used the color ___. Now it is your turn, repeat after me, "I like the shapes in this artwork." and "I wonder why the artist used the color ____."

 **STUDENTS DO:** Repeat "I like" and "I wonder."

TEACHER SAY: Great. Ready, please start sharing your artwork.

 **STUDENTS DO:** Share art and offer comments.

TEACHER DO: As you circulate around the room, listen carefully to student comments. Be sure they are using the frame of I like and I wonder. Use a **Bell** to regain student attention.

TEACHER SAY: Well done. If you shared your artwork, please stay where you are. If you were listening and providing comments, move now to another piece of art.

TEACHER DO: Have students repeat the presenting and sharing process two more times. Then switch the two halves of the class, allowing those who were sharing to now provide feedback and vice versa.

TEACHER SAY: Nicely done. I like how you gave comments about someone's artwork. I like how you shared what you were trying to communicate in your artwork. I wonder if some of you might become artists.

4. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: In this chapter, we have studied many ways we can communicate. In our study of famous paintings, we drew, painted, sang, acted, spoke, listened, and wrote about our feelings. We used our language skills to tell a story about a piece of art. Our next chapter will explore our ten favorite things. Can ______ come help lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on five to eight others to share their favorite form of communication in this chapter. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on five to eight volunteers.

 **STUDENTS DO:** Share a favorite form of communication in this chapter.

KINDERGARTEN I

Multidisciplinary

COMMUNICATION

Chapter 3: A Message Across the Nile

Theme Overview

A Message Across the Nile

COMPONENT	DESCRIPTION	# OF LESSONS
Discover	Students explore different types of transportation and materials that sink and float. Students discover the properties and function of boats.	3
Learn	Students trace the use of tools in communicating messages throughout time. Engaging in the engineering design process, students collaborate to plan an initial boat design and communicate successes and difficulties.	5
Share	Students test boats, debrief the design process, and analyze ways to improve boat design.	2

Connection to Issues



Citizenship: We belong to a family. We each have a role in our country.

Environmental Issues: We care about the earth. We are part of a community that sustains the environment.

Life Skills Addressed

Communication

DIMENSION	DESCRIPTION
Learn to Know	**Critical Thinking:** • Differentiate between similarities and differences. **Creativity:** • Flexibility in generating a diversity of ideas that are not typically expected, and be able to readjust when the situation changes. • Originality in generating new and unique ideas. **Problem Solving:** • Identify the problem.
Learn to Do	**Collaboration:** • Abide by common rules of the team. **Negotiation:** • Good listening.
Learn to Live Together	**Respect for diversity:** • Respect the opinions of others. **Empathy:** • Help others. **Sharing:** • Awareness of roles.
Learn to Be	**Self-management:** • Set clear goals. **Communication:** • Good listening. • Self-expression.

Learning Indicators

Throughout this chapter, students will work toward the following learning indicators:

READING:

Language: Vocabulary Acquisition and Use

- Understand and use question words.
- Use words and phrases acquired through conversations, reading, and being read to.

WRITING:

Foundational Skills

- Write Arabic letters (tracing, imitating, and independently).

Narrative

- Use drawings, dictating, and writing to narrate events and a reaction to what happened.
- Recall information from experiences.

Process, Production and Research

- Orally produce complete sentences in shared language activities.
- Add drawings or visual displays to descriptions to provide additional details.

SPEAKING AND LISTENING:

Foundational Skills

- Use appropriate vocabulary, gestures, facial expressions, and body language for the situation.
- Participate in collaborative conversations with diverse partners about topics and texts with peers and adults.
- Ask questions to clear up any confusion about the topics and texts under discussion.
- Describe people, places, things, and events with relevant details and provide additional detail with prompting and support.
- Add drawings or other visual displays to descriptions to provide additional detail.
- Express thoughts, feelings, and ideas clearly.

Fluency

- Orally produce complete sentences when appropriate to task and situation.
- Use singular and plural proper and common nouns with matching verbs in basic sentences.

MATH:

Operations and Algebraic Thinking

- Represent addition and subtraction with objects, fingers, mental images, drawing, sounds, acting out situations, or verbal explanations, expressions, or equations.
- Add and subtract within 10 using strategies such as:
  - Using objects or drawings to represent a problem.
  - Decompose numbers into pairs in more than one way (5-2+3 and 5=4+1).
  - Finding the number of objects that make 5 when added to any number 1–9.
- Employ units of money until 10 Egyptian pounds in addition and subtraction problems.

SCIENCES:

Skills and Processes

- Raise questions about the world around them.
- Seek answers to some of their questions by making careful observations, using 5 senses, and trying things out.
- Design and make things with simple tools and a variety of materials.

Physical Science

- Compare the observable properties of a variety of objects and the materials they are made of.

Engineering Design and Process

- Develop an understanding of the characteristics and scope of technology.
- Develop an understanding of engineering design.
- Develop the abilities to apply the design process.
- Develop the abilities to assess the impact of products and systems.

SOCIAL STUDIES:

Civics

- Communicate effectively with others.
- Differentiate between acceptable and unacceptable behaviors.
- Demonstrate respect for customs and traditions.
- Communicate politely with others, using vocabulary such as please and thank you.

MUSIC:

Playing Instruments: Playing Simple Instruments

- Play the drums.

LIBRARY:

Types of Media in the Library: Developing Visual and Print Stories

- View digital resources related to the theme.

INFORMATION AND COMMUNICATION TECHNOLOGIES:

- Use digital technologies (computer) appropriate to support learning.
- Use a variety of digital tools to produce and publish writing and art with guidance and support.

CH 3 Pacing Guide

LESSON	INSTRUCTIONAL FOCUS
1	DISCOVER: **Students will:** • Identify types of transportation. • Sort types of transportation.
2	DISCOVER: **Students will:** • Investigate materials that sink and float.
3	DISCOVER: **Students will:** • Observe and describe properties of boats.
4	LEARN: **Students will:** • Identify ways people send messages. • Explore tools used to send messages throughout time.
5	LEARN: **Students will:** • Describe best materials to use for a boat. • Illustrate a plan.
6	LEARN: **Students will:** • Collaborate to create an initial boat design.
7	LEARN: **Students will:** • Present initial designs. • Communicate successes and difficulties.
8	LEARN: **Students will:** • Redesign boat using feedback.
9	SHARE: **Students will:** • Test final boat designs. • Communicate an important idea learned in the chapter.
10	SHARE: **Students will:** • Debrief entire design process. • Identify ways to improve on final designs.

Materials Used

Student book

Pencils

Crayons

Bell

Chart paper

Markers

Scissors

Glue

Images of differnt forms of transportation

Tape or glue

Plastic containter for water

Towels or paper towels for cleanup

Assorted items for testing sink or float (pencils, pebbles, craft sticks, paper clips)

Aluminum foil or clay

Drums if possible

Small objects to use as weights (coins, washers)

Craft sticks

Cardboard

Play dough

Yarn



Lesson 1 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Identify types of transportation. • Sort types of transportation.	• Transportation	• Images of different forms of transportation (digital or printed) • Chart paper • Scissors • Glue

PREPARATION

Consider inviting volunteers into the class to help facilitate Lesson 6 of this chapter. If possible, invite a parent or community member who builds or captains boats in to share and celebrate with students in Lesson 9 or 10.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

This is a time to excite your students about the chapter. Tell them they are beginning a chapter of study called, "A Message Across the Nile."

TEACHER SAY: **We are starting a unit of study called "A Message Across the Nile." What do you think we might learn?**

TEACHER DO: Use **Calling Sticks** to choose three students to answer the question before continuing.

 STUDENTS DO: Predict what they will learn.

TEACHER SAY: **What are some ways you could send a message to a friend?**

TEACHER DO: Use **Calling Sticks** to choose several students to answer the question before continuing. Focus answers on the method of getting the message to the friend, not the method of composing the message. Possible answers include writing a note and walking it to the person, sending a note through the post office, sending a message through airmail, emailing, or texting a message, and so on.

 STUDENTS DO: Share ideas.

TEACHER SAY: **Yes, you can use your voice or write a message. You can call someone, mail a letter, or send a message using a computer or smartphone. In this chapter, we will be learning more about communication and how messages are sent. If I wanted to send a written message a long distance, how could I send it?**

 STUDENTS DO: Offer ideas.

2. TEACHER SAY: **Good thinking. I could send a message over a long distance on an airplane or a ship. Messages can be sent using different types of transportation. This is going to be an important word today. Can you repeat "transportation?"**

 STUDENTS DO: Repeat the word "transportation."

TEACHER SAY: **Transportation means to move things from one place to another place. Let's discover some examples of transportation. How do you get from home to school?**

TEACHER DO: Use **Calling Sticks** to choose three students to answer the question before continuing. Begin a chart titled Types of Transportation to record student answers.

 **STUDENTS DO:** Share answers with the class.

TEACHER SAY: **Let's imagine you wanted to travel further. How could you get across town?**

 **STUDENTS DO:** Offer ideas.

TEACHER SAY: **Good ideas. Can anyone think of other ways we move around? Are there other types of transportation we have not listed yet?**

 **STUDENTS DO:** Describe different types of transportation.

TEACHER DO: Encourage students to think of traditional and nontraditional types of transportation including: walk, bicycle, bus, motorcycle, airplane, helicopter, car, truck, boat, animal (donkey, horse, camel). Make a quick sketch of each type of transportation next to the word or have digital or printed images ready to display along with the words.

TEACHER SAY: **You named many types of transportation. Here are a few more.**

TEACHER DO: Add any additional types of transportation the students did not list.

3. TEACHER SAY: **We have worked hard to sort many things this year. Let's look at our list of how we travel. How can we sort these types of transportation?**

TEACHER DO: Use **Calling Sticks** to choose three or four students to answer the question.

 **STUDENTS DO:** Share responses with the class.

TEACHER SAY: **Well done. I heard you say we can sort by color, size, or number of wheels.**

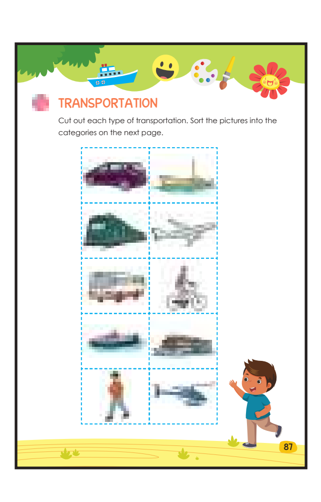
TEACHER DO: Choose one type of sort suggestion and walk through the list with students, either creating a sample **T-Chart** or marking up the list (for example, circling grouped items in a color) based on the sort.

TEACHER SAY: **We can also sort the types of transportation by where they travel. Let's use the categories: land, water, and air. Does a bicycle travel on land, in water, or in the air?**

TEACHER DO: Select a volunteer.

 **STUDENTS DO:** Share response with the class.

Note to Teacher: An optional extension activity is to take students to the front of the school (or have students watch out the window of the classroom if it faces a street) to count the different types of transportation the students see pass by the school. Students could also count the number of cars by color. Encourage creativity in the possible sorting categories as this will build critical thinking skills. Students can create graphs of this data with teacher assistance.



4. TEACHER DO: Pass out one student book per student. Make sure each student has a pencil and some crayons.

TEACHER SAY: **Open your student book to the page Transportation.**

 **STUDENTS DO:** Find the correct pages in the student book.

TEACHER SAY: **What do you see on the page? Does anyone recognize a picture?**

 **STUDENTS DO:** Offer ideas, identify familiar types of transportation.

TEACHER SAY: You already know a lot. On this page, there are pictures of different types of transportation. Let's name each one. Point to the type of transportation and repeat the name after me.

TEACHER DO: Name each type of transportation. Observe the students to be sure they are pointing to the correct type of transportation.


STUDENTS DO: Point to the correct type of transportation, repeating each after the teacher.

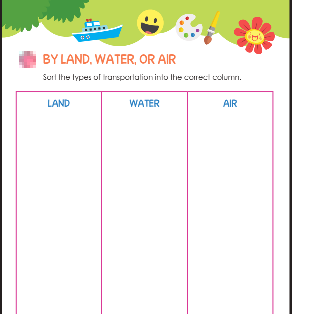
TEACHER SAY: Now that we know what each picture is, let's read the directions.


READ ALOUD: Cut out each type of transportation. Sort the pictures into the categories on the next page.

TEACHER SAY: First, cut on the dotted lines and set the pictures aside on the table.


STUDENTS DO: Cut out the pictures.

Note to Teacher: If students need more support with cutting, demonstrate correct use of scissors and review safety guidelines.



TEACHER SAY: Now, turn to the next page, By Land, Water, or Air. Here you see three columns for your sort: Land, Water, and Air. We already decided that a bicycle is used on land. Find the bicycle picture and place it under the word "Land."

STUDENTS DO: Find the bicycle and sort it into the LAND category.

TEACHER SAY: Take a few minutes to sort the rest of the pictures. Work on your own to start, and then we will check our answers with a Shoulder Partner.

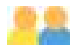

STUDENTS DO: Sort the types of transportation into the correct category.

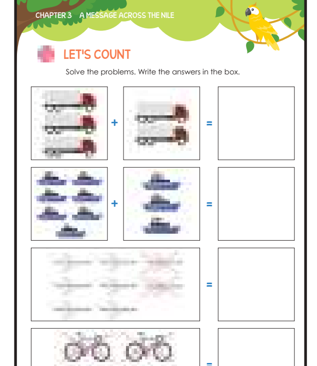
TEACHER DO: Allow time for students to complete their page. Be sure to walk around to observe and assist where needed. Encourage students to help each other and share scissors. Note that students should not glue pictures down until they have reviewed the sort with a partner and the whole class.

TEACHER SAY: When you are finished, share your sort with a Shoulder Partner. Do you have all the same answers? If any of your pictures are in different columns, share your thinking with each other. See if you can agree on which is correct.

TEACHER DO: When students are done checking work in pairs, use **Calling Sticks** to choose students to answer which pictures were placed in each column. Review the correct answers for each column, then have students work to glue down the pictures.

5. TEACHER SAY: Now, let's practice counting. How many pictures are in each group? How many are in the water group? Count silently, then raise a hand to answer.


STUDENTS DO: Count and identify how many.



TEACHER DO: Repeat for each sorted group. To extend this activity, have students write the numeral for each group at the top of each column.

6. TEACHER SAY: Let's practice some more math using the types of transportation we have learned. Turn to the page, Let's Count.

TEACHER DO: Hold up student book page Let's Count.


STUDENTS DO: Find the correct page in the student book.


READ ALOUD: Solve the problems. Write the answer in the box.

TEACHER DO: Enlist student help in reading each problem out loud to the class.

TEACHER SAY: Who can read a problem where they need to ADD or COMBINE the groups?

 **STUDENTS DO:** Volunteer to read the two addition problems.

TEACHER SAY: Great. Who can read the problems where we need to SUBTRACT or TAKE AWAY?

 **STUDENTS DO:** Volunteer to read the two subtraction problems.

TEACHER SAY: Great. Now, work to solve the problems on your own. Remember to use the strategies we have learned in math.

 **STUDENTS DO:** Count and solve the problems using pictures.

TEACHER DO: Circulate around the room as students work. Prompt students to count the objects in each box.

Note to Teacher: You may want to do this activity as a guided practice by counting and solving the problems together based on the needs of your students.

7. **TEACHER SAY: Let's review your answers.**

TEACHER DO: Use **Calling Sticks** to choose a student to answer the question.

 **STUDENTS DO:** Share response with the class.

TEACHER SAY: Yes, 3 trucks and 2 trucks make 5 trucks. We can count the images on the page. We can also use our fingers to model the numbers. What about the next one?

TEACHER DO: Use **Calling Sticks** to choose students to share answers for each problem on the page. If a student offers an incorrect answer, ask another student if they agree or disagree (and why) before correcting the answer given.

8. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today we discovered many ways to move things from one place to another. Can ______ come help lead our closing today?

TEACHER DO: Call on a student to lead the closing conversation. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

TEACHER SAY: In this chapter, we are going to build boats to see if we can get a message to a friend across water. Starting tomorrow, we will discover important parts of how boats are made.

Lesson 2 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Investigate materials that sink and float.	• Sink • Float • Heavier • Lighter • Prediction	• **Bell** • Common objects such as pencils, rocks, craft sticks, marbles, bottlecaps, nails, paperclips, or coins (set of assorted objects per group if possible) • Plastic tub or container to hold water (one per group if possible) • Water • Towels or paper towels for cleaning. • Optional: show students short videoclips of objects that sink and float

PREPARATION

Create a large chart of the objects students will use. Include an image and the word. Set out plastic tubs or containers with water if available for students to work in small groups. Be sure to place some towels or paper towels at each location. Otherwise, adjust the lesson to be a teacher demonstration.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: **Yesterday, we talked about transportation or the way we move things from one place to another. Let's find out how much experience we have with transportation. Stand up if you have ever ridden in a car.**

 STUDENTS DO: Stand up if applicable.

TEACHER DO: Offer "stand up if you have ever…" statements for three or four other types of transportation. Include walking so that all students can stand at least once (also include a wheelchair if applicable in your classroom). Make the last statement "stand up if you have ever been on a boat" to introduce the topic for the day.

2. TEACHER SAY: **A few of you (adjust as needed) have been on a boat before. Boats can carry people across rivers, lakes, and sea. Boats can also be used to carry messages. A long time ago, before we airplanes existed, boats were the only way to travel or carry messages across water. Boats can float on top of the water. Repeat the word FLOAT with me.**

 STUDENTS DO: Repeat the word "float."

TEACHER SAY: **Float means that something rests on top of the water. Can you float on water?**

TEACHER DO: Use **Calling Sticks** to choose three or four students to answer the question.

 STUDENTS DO: Share responses with the class.

TEACHER SAY: **What does floating on the water look like?**

TEACHER DO: Use **Calling Sticks** to choose a student to answer the question.

 **STUDENTS DO:** Share response with the class.

TEACHER SAY: What would happen if you tried to walk across a river?

TEACHER DO: Use **Calling Sticks** to choose three or four students to answer the question.

 **STUDENTS DO:** Share responses with the class.

TEACHER SAY: If we lay flat, many of us can float. If we stand up straight, like walking, we will not float. We will sink. Can you repeat the word "SINK?"

 **STUDENTS DO:** Repeat the word "sink."

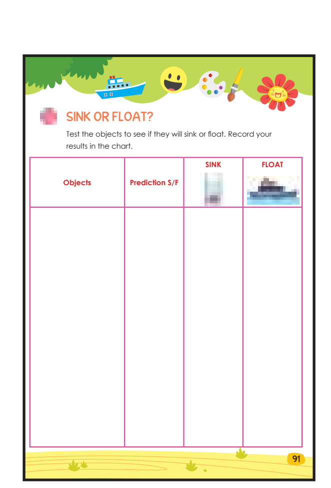
3. TEACHER SAY: In this chapter, we are going to make our own boats. One thing we need to understand is, what floats? Today we will explore whether objects float like a boat or sink down under the water. We will record what we learn to remember and communicate to others. Before we start, can you name something you think would sink?

TEACHER DO: Use **Calling Sticks** to choose three or four students to answer the question.

 **STUDENTS DO:** Share responses with the class.

Note to Teacher: Use these questions as a quick preassessment of your student's familiarity with sinking and floating. Make note of any misconceptions or questions your students have to address later in the lesson.

TEACHER SAY: Let's investigate to find the answer to our question.



TEACHER DO: Pass out student books. Hold up student book page Sink or Float?

TEACHER SAY: Turn to this page in your student book. It is called Sink or Float?

 **STUDENTS DO:** Find the correct page in the student book.

Note to Teacher: Use the chart you prepared earlier with three or four objects to test.

TEACHER SAY: At the top of the page, you see a boat in water. What does a boat do in the water? (Choral response) Correct, a boat floats. You also see a marble under the water. What word do we use if something goes under the water to the bottom? (Choral response) Correct, we say it sinks. I made a chart of the objects you will investigate. Repeat after me as I name each object and point to it.

TEACHER DO: Point to each object and ask students to repeat the words as you point to the word and picture.

 **STUDENTS DO:** Repeat names of objects.

TEACHER SAY: You are going to record the results of our investigation in your student books. Take a minute to draw one object from my chart in the first box of each row on your page.

 **STUDENTS DO:** Record objects to be used by drawing in first column.

TEACHER SAY: Let's make some predictions. Remember, a prediction means we think about what might happen. It is okay if our predictions are not right. As I point to each object, raise your hand if you think it will float. I will count. If more than half of the class votes "FLOAT," I will write an F for float in the next column. If we think it will SINK, I will write an S.

TEACHER DO: Record class votes on the class chart. In the prediction column provided in the student book, students can either copy the letters that represent the class vote or record individual votes with an F or S. To extend student thinking, ask students to explain their prediction.

 **STUDENTS DO:** Predict if objects will sink or float.

4. TEACHER SAY: Now it is time to investigate.



READ ALOUD: Test the objects to see if they will sink or float. Record your results in the chart.

TEACHER DO: If students are working in small groups, demonstrate how to carefully place an item on top of the water (as opposed to throwing or dropping it in). Circulate around the room to assist where needed. Be sure to have towels available to clean up any spilled water. Encourage students to take turns and use the chart to help write the names of the objects. If testing in a teacher demonstration, try to use a clear container so that students can more easily observe from around the room. If visibility is low, call on a few students to stand close to the demonstration and report what is happening.

STUDENTS DO: Test the objects to see if they will sink or float (or observe and report).

TEACHER DO: Use the **Bell** to regain student attention.

TEACHER SAY: Let's look at our chart again. When I point to the object, tell me if it sank or floated. I will record your answers here.

TEACHER DO: Call on volunteers and record answers on the chart next to the predictions. Use a different colored marker than the prediction. If students have forgotten or disagree on the answer, retest the object in question.



STUDENTS DO: Share results with the class.

5. TEACHER SAY: Let's talk about our results. Did any results surprise you? Why?

TEACHER DO: Use **Calling Sticks** to choose 3 to 4 students to answer the question.



STUDENTS DO: Share responses with the class.

TEACHER SAY: Is there anything similar about the objects that floated?

TEACHER DO: Use **Calling Sticks** to choose 3 to 4 students to answer the question.



STUDENTS DO: Share responses with the class.

TEACHER SAY: Is there anything similar about the objects that sank?

TEACHER DO: Use **Calling Sticks** to choose 3 to 4 students to answer the question.



STUDENTS DO: Share responses with the class.

6. TEACHER SAY: We saw objects sink and we saw objects float. Look around the room. Let's see if we can make more predictions based on what we discovered. What objects do you see in our room that you think will float?

TEACHER DO: Provide **Wait Time** before having students volunteer ideas for objects that could float. Bring two or three of those materials (that will not be harmed by water) to the front of the room.



STUDENTS DO: Identify an object in the room that could float.

TEACHER DO: Test the objects brought to the front of the room. Repeat the process for objects students predict will sink from around the room.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today we investigated objects that float and things that sink. Can ______ come help lead our closing today?

TEACHER DO: Call on a student to lead closing. The student leader should call on three others to share something learned that will help students in making a boat that floats. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 3 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Observe and describe properties of boats.	• Raft • Felucca • Cargo	• **Bell** • Aluminum foil or clay • Water • Plastic tub or container to hold water • Paper towels • Objects to use as a weights such as coins, folder clips, markers, paperclips, and so on. Be sure to choose an object that can get wet, be dried off easily, and reused

PREPARATION

If materials are available for students to work in groups, set out plastic tubs or containers with water and several pieces of aluminum foil (or a ball of clay) around the room for each row. Be sure to place some towels at each location. If materials for small group work are not available, adjust the lesson to become a teacher demonstration or to test all student boats in one container.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: **Yesterday, we investigated things that sink and things that float. We tested a number of objects to find out if they would float. Without looking back in your books, who can remember an object that floated in our test?**

 STUDENTS DO: Offer ideas from memory.

2. TEACHER SAY: **Before we had airplanes and cars, people would use boats to as a way to communicate or send messages to people across water. We know a boat can float. Yesterday we observed some objects that could float. Those objects were made up of different materials. Earlier in the year, we learned that objects are made from materials. Let's see if we can figure out which materials floated yesterday.**

TEACHER DO: Go through the list of objects tested one at a time and ask students to identify the main material that makes up each object (generic terms like "paper" and "metal" are sufficient).

 STUDENTS DO: Identify (or guess) materials of tested objects.

3. TEACHER SAY: **I wonder if all materials would make a good boat. Let's think. What materials could make a boat? Turn to a Shoulder Partner and share your ideas.**

 STUDENTS DO: Share material ideas with a **Shoulder Partner**.

TEACHER SAY: **A stick, or piece of wood comes from a tree. Would it be good to make a boat out of wood? Why or why not? Tell your Shoulder Partner.**

 STUDENTS DO: Share response with a **Shoulder Partner**.

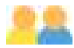
TEACHER SAY: **Paper also comes from trees. Do you think paper would make a good boat? Why or why not? Tell your Shoulder Partner.**

 **STUDENTS DO:** Share response with a **Shoulder Partner**.

Note to Teacher: If time and materials allow, consider setting up another investigation or demonstration for students to observe what happens to various materials (for example, foil, wax paper, paper, cardboard, wood, metal) when they get wet.

4. TEACHER DO: Pass out student books. Hold up student book page Boats.

TEACHER SAY: Turn to the page, Boats in your student book.

 **STUDENTS DO:** Find the correct page in the student book.

TEACHER SAY: Look at the pictures of different boats. Can anyone name the type of boats?

TEACHER DO: Call on volunteers.

 **STUDENTS DO:** Share responses with the class.

TEACHER SAY: Some boats are made of wood. Some boats are made of metal. A simple raft is made by tying many tree branches together. Point to the raft.

 **STUDENTS DO:** Point to the raft.

TEACHER SAY: A felucca is a wooden boat.

 **STUDENTS DO:** Point to the felucca.

TEACHER SAY: Many large cargo ships are made of metal. Cargo means goods like cars, machines, furniture, and so on.

 **STUDENTS DO:** Point to the cargo ship.

 **READ ALOUD: Trace the letters under each picture.**

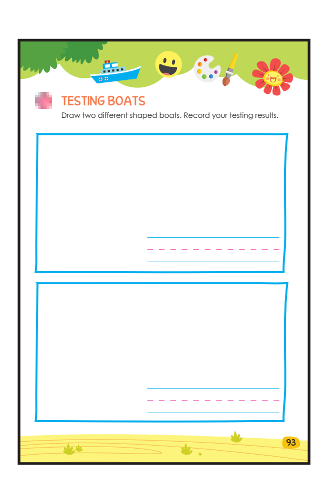
 **STUDENTS DO:** Trace the letters under the pictures.

Note to Teacher: You can choose to do the following investigation as a whole class if materials are not available for students to work in groups.

TEACHER SAY: Well done. We have talked about objects that float. We have discovered materials that are good for water. The shape of each of these boats is also important. What are some words you know to describe the shape of the boats on the page?

 **STUDENTS DO:** Offer ideas.

TEACHER DO: If students struggle to find words, suggest a couple and ask which boat it would describe, such as "flat" or "raised" or "like a triangle." Before continuing, put students in groups of four or six



5. TEACHER SAY: We are investigating boats so that we can build our own. We will use foil (or clay) to build our boats later in the chapter. Let's find out which shape of foil boat floats the best. In your groups, use the foil to make two different shaped boats. How many different shaped boats will you make? (Choral response)

 **STUDENTS DO:** Respond two.

TEACHER SAY: Talk in your groups about what shape you want to make your boats.

 **STUDENTS DO:** Collaborate and negotiate with peers.

TEACHER SAY:Turn to the page, Testing Boats in your student book.

 **READ ALOUD: Draw two different shaped boats.**

TEACHER SAY: Before you begin using foil, let's draw our ideas. This will help us remember what to do.

 **STUDENTS DO:** Draw a basic shape for two boats.

6. TEACHER SAY: When you are done drawing, work with your group to fold the foil into the shape of your first drawing.

 **STUDENTS DO:** Fold foil into first boat shape.

Note to Teacher: Avoid modeling this for students. As a discovery lesson, it is intended that students use trial and error to create boats using aluminum foil and test them. If students have trouble working in groups, each student can fold one boat and test them together in a container.

TEACHER SAY: Place your first boat in the water. Does it float? Place an object in the boat as weight. Does your boat sink of float? Write S for sink or F for float under the picture of your boat.

 **STUDENTS DO:** Test first boat and write S or F under the picture.

TEACHER DO: As you circulate around the room, encourage students to use the paper towels to wipe up any spills. Remind students to place objects gently onto boats. Dropping them can sink a boat that might otherwise hold a larger load. Use the **Bell** to refocus student attention.

TEACHER SAY: Engineers try an idea and then improve it. Let's find out if the second boat shape is better. Fold the foil into second boat shape.

 **STUDENTS DO:** Fold foil into second boat shape.

TEACHER SAY: Place your second boat in the water. Does it float? Place an object in the boat. Does your boat sink of float? Write S for sink or F for float under the picture of your boat.

 **STUDENTS DO:** Test second boat and write S or F under the picture.

TEACHER DO: Continue circulating to offer support and reminders. After a few minutes, use the **Bell** to refocus student attention.

TEACHER SAY: Please be sure to tidy your materials and wipe up any spilled water. Let's share what we observed with the rest of the class. As I call your row, please hold up your best boat design. We want to make sure we listen to what our friends tell us. We can learn from their investigation.

 **STUDENTS DO:** Share results of the investigation with the class.

TEACHER SAY: It looks like a flatter bottomed boat can hold the most objects. That reminds me of the cargo ship we looked at in our student book. Let's discuss what we learned today that can help us build our boats.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today we investigated the shape of different boats. Can ______ come help lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share something learned that will help students in making a boat that floats. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 4 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Identify ways people send messages. • Explore tools used to send messages throughout time.	• Post Office • Email	• **Bell** • Drums • Scrap paper • Optional: decorated mailbox with a slot for mail

PREPARATION (OPTIONAL)

Decorate a box for classroom mail. You may use a shoebox with a slot cut in the lid, a large envelope, or a folder labeled mailbox.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: Yesterday, we talked about how different materials and shapes affect how a boat floats. What shapes were best for holding the most amount of weight?

TEACHER DO: Use **Calling Sticks** to choose 3 or 4 students to answer the question.

 **STUDENTS DO:** Share responses with the class.

2. TEACHER SAY: Great work.You remembered that a flat, wide bottom with walls held the most weight. The boats we will build will carry a message to a friend. Let's find out more about how messages have been sent throughout history.

On the first day of this chapter, we discussed ways to send a message. Our ideas included writing a note and walking it over to someone or having a post man deliver it. We also discussed email, cell phones, and other modern ways to send messages. Long ago, people could use music to send a message to someone far away. For example, they might use a drum. The sound from a drum can be heard from far away.

TEACHER DO: If available, pass out drums to students. If there are not enough drums for each child, some students may tap hands on knees or the table to create a beat. After a few tries, let the students pass the drums to someone else.

TEACHER SAY: We can make different sounds on the drum. We can drum fast and hard. (Demonstrate for students) We can drum slow and steady. (Demonstrate for students) Your turn. Show me fast and hard.

 **STUDENTS DO:** Drum fast and hard.

TEACHER SAY: Now show me slow and steady.

 **STUDENTS DO:** Drum fast and hard.

TEACHER SAY: Imagine a storm was coming and you wanted to warn someone else far away. Which drum pattern would you use? Why?

TEACHER DO: Use **Calling Sticks** to choose 3 to 4 students to demonstrate by playing a beat on the drum.

 **STUDENTS DO:** Tap out a beat on the drum or legs (fast and hard).

TEACHER SAY: If you wanted to communicate something fun, like a party, what sound would you make?

TEACHER DO: Use **Calling Sticks** to choose 3 to 4 students to demonstrate by playing a beat on the drum.

 **STUDENTS DO:** Tap out a beat on the drum or legs.

TEACHER SAY: Wow, that certainly sounds like fun. Let's put our drums away.

TEACHER DO: Tell students where to place the drums when finished.

 **STUDENTS DO:** Put drums away.

3. TEACHER DO: Engage students in a discussion of various ways people have sent messages over time. Allow students to ask questions and share experiences and ideas.

TEACHER SAY: People also used animals to send messages to people. What animals do you think were used?

TEACHER DO: Use **Calling Sticks** to choose 3 to 4 students to answer the question.

 **STUDENTS DO:** Offer ideas.

TEACHER SAY: People used to train birds, like pigeons or hawks, to carry a note wrapped around their legs. When people traveled by horseback and camel over long distances to communicate messages, they sometimes made it a relay. A relay is when one person has the message, then passes it to someone else, and so on until the message gets to the right person.

Note to Teacher: (Optional activity) Take students outside or in a large area where they can run a relay race. Line the students up in rows. Spread students out in a vertical line. Give one student a message written on scrap paper. The student with the message runs to the next person, hands them the message. The person with the message runs to the next person and so on. This could also be simulated in a classroom.

TEACHER SAY: A post office is a place you can take your message and send it anyplace in the world. Have you ever mailed a letter at a mailbox or post office?

TEACHER DO: Use **Calling Sticks** to choose 3 to 4 students to answer the question.

 **STUDENTS DO:** Share responses with the class.

Note to Teacher: If you do not have a classroom mailbox, skip to the discussion of the computer.

TEACHER SAY: I made a classroom mailbox for us.

TEACHER DO: Hold up the box you decorated with a slot for mail.

TEACHER SAY:
You can use scrap paper to write or draw a message to a friend. Put your message in the slot like this. (Demonstrate for students.) You may write or draw a message when you finish your work, or when you come in at the start of class.

Note to Teacher: Post a list of student names on chart paper for students to reference. If possible, include a picture of each child (students may bring in a small photograph from home). Students can refer to this list to send a message to another student using the classroom mailbox. Adjust the process as needed for your classroom.

TEACHER SAY: **A computer can help you send a message, called email. A cell phone can also help you send messages. You can call someone, text, or email a message, all from your phone. Raise your hand if you have experience sending messages this way.**

 **STUDENTS DO:** Raise hands if applicable.

4. TEACHER SAY: **One important part of sending a message is to communicate it clearly. You don't want your message to be misunderstood. Let's play a game to help us remember to be clear. The game is called "Telephone." Please stand up in your rows.**

 **STUDENTS DO:** Stand in rows.

TEACHER SAY: **I will whisper a message to the first person in each row. After you hear the message, turn to the next person, and whisper the message to them and so on.**

TEACHER DO: **Whisper** a simple but silly message such as, "I like dogs and bananas." Students should whisper the message along a group of at least 8 to 10 students. Adjust your instructions accordingly depending on row size.

 **STUDENTS DO:** **Whisper** message to next person.

TEACHER SAY: **When I call your row, the last person will tell us the message they heard.**

 **STUDENTS DO:** Share message with the class.

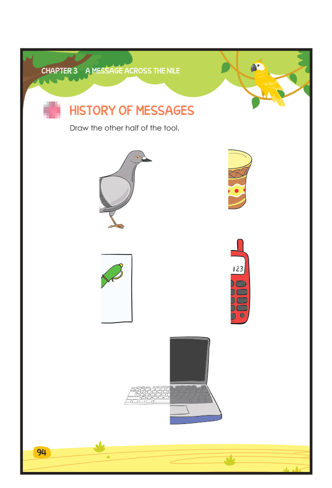
TEACHER SAY: **The message I whispered was "I like dogs and bananas." Are you surprised?**

TEACHER DO: Use **Calling Sticks** to choose 3 to 4 students to answer the question.

 **STUDENTS DO:** Share responses with the class.

TEACHER SAY: **Sometimes, when a message is repeated over and over, it can get changed a little bit. Now, we've talked about many ways we can send messages. Who can help us review all of the different methods we discussed?**

 **STUDENTS DO:** Review the different forms of communication.



5. TEACHER DO: Pass out student books. Hold up student book, History of Messages

TEACHER SAY: **Turn to this page in your student book. It is called History of Messages.**

 **STUDENTS DO:** Find the correct page in the student book.

TEACHER SAY: **The pictures on this page show tools used to send messages throughout time.**

 **READ ALOUD:** **Draw the other half of the tool.**

TEACHER DO: Circulate around the room as students draw and clarify any questions about the pictures.

 **STUDENTS DO:** Draw the other half of the tools.

TEACHER SAY: **Share your work with a Shoulder Partner.**

 **STUDENTS DO:** Share drawings with a **Shoulder Partner**.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: **Today we learned more about communication through messages. Can ______ come help lead our closing today?**

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 5 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Describe best materials to use for a boat. • Illustrate a plan.	• Sink • Float • Design	• Steps in the design process • Foil • Craft sticks • Paper • Cardboard • Playdough • Yarn • Egyptian pound (coin) or other similar weight • Several containers of water (optional) • Large container of water



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: **Yesterday, we discovered the different ways people send messages. Who can share a way we send messages to our friends and family?**

TEACHER DO: Use Calling Sticks to have several students share ways to send messages.

 STUDENTS DO: Identify ways messages can be sent.

2. TEACHER SAY: **Great. Today I am going to give you a challenge for sending a message. We live near the Nile River. We want to send a message to someone on the other side. Let's think about our transportation options. Could we use a bicycle to deliver our message?**

 STUDENTS: Respond, "no."

TEACHER SAY: **What type of transportation should we use?**

 STUDENTS DO: Respond, "BOAT."

TEACHER SAY: **Yes, a boat can carry a message across the river. Today you will work with friends in the class to make a boat that can carry a message across water. I have a large tub of water that will be our model of a river. Your boat will need to move across this tub of water.**

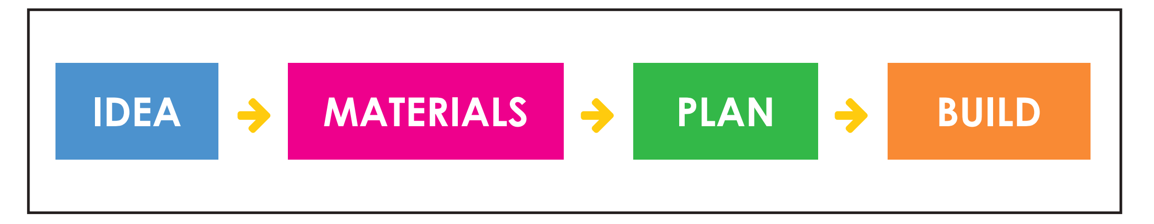
TEACHER DO: Show the large tub to students.

TEACHER SAY: **We will use a coin (or other small object you have chosen) to represent the message we want to send. At the end of our week we will work together to write a real message. For this challenge, our boat needs to float across the river. The message also needs to stay dry.**

TEACHER DO: Display a coin or other weight to the class.

3. TEACHER SAY: We will use our design process to help us come up with a solution. Who remembers the steps in our design process? We used the design process when we helped our beetle friend make shade.

TEACHER DO: Provide **Wait Time** for students to recall the design process. Hang up the design process flowchart created previously at the front of the room. The chart should have the words IDEAS, MATERIALS, PLAN, BUILD , with an arrow between each word. Then, use **Calling Sticks** to have students share the steps of the process.



 **STUDENTS DO:** Identify steps in the design process.

4. TEACHER SAY: The design process starts with IDEAS. What IDEAS do we have about creating a boat? Think about what we have learned in the past few days. Turn and talk to a Shoulder Partner about your IDEAS for creating a boat in our classroom. Right now, there are no bad ideas. Your job in IDEAS is to think of all the different possibilities. Listen respectfully to your partner's ideas.

 **STUDENTS DO:** Share boat ideas with a **Shoulder Partner**.

TEACHER DO: Listen as students share ideas with a partner. When appropriate, ask students to explain an idea in more detail. Hang up chart paper at the front of the room. Create a **Web** with the words "Boat Ideas" in the middle. At the moment, students are just orally sharing ideas and are not recording ideas.

TEACHER SAY: Let's share our ideas as a class. We can create a Web of our ideas.

TEACHER DO: Use **Calling Sticks** to have students share ideas for the **Web**. Record ideas.

5. TEACHER SAY: Thank you for sharing your ideas. We can learn from each other and get new ideas by listening to what our friends have to share. The next step in our process is MATERIALS. We need to know what materials we have to create our boats.

TEACHER DO: Divide students into working groups. Set out plates of materials to each table group/row. On each plate should be: foil, craft stick, paper, cardboard, playdough, and a coin or other weight.

TEACHER SAY: Here are the materials you have to create a boat. Your boat will need to be able to float across the water and hold at least one message. Take a few minutes to explore the materials with your group. Which materials will float the best? Which materials will be the easiest to put together as a boat? Which materials will have enough space to hold a message? Remember to be gentle with your materials.

Note to Teacher: You can choose to give each group a small bowl of water to test the materials to see if they will sink or float, test as a whole group, or just review what was learned previously about sinking/floating.

TEACHER DO: Allow students time to explore the materials provided. If you feel your class needs more guidance, have students explore each question, one at a time, and discuss answers as a class before moving on to the next question. If students explore the materials independently in groups, bring the class back together to discuss what was discovered.

 **STUDENTS DO:** Explore materials to determine the materials that will float, be put together easily, and have space to hold a message.

Note to Teacher: You can refer back to the previous lesson on sinking and floating and creating a boat to help guide student's exploration of materials.

6. TEACHER SAY: **We have come up with IDEAS. We have learned about our MATERIALS. The next step is to PLAN. We will start by making a plan on our own. Tomorrow, we will share our plans. Then we will work in groups to build boats.**

TEACHER DO: Pass out student books. Hold up the page My Plan.

TEACHER SAY: **Open your book to the page, My Plan. At the top of the page you can see the different materials. Start by circling the material or materials you want to use to create your boat. You will also have glue and tape to help put your materials together.**

 STUDENTS DO: Circle materials to create the boat.

TEACHER DO: If you have adjusted the available materials, guide students to revise the list by crossing out what is not available and drawing or listing the substituted materials.

 READ ALOUD: **Draw to show your idea for making a boat.**

TEACHER SAY: **Make sure as you draw your plan you add details to help communicate your ideas. You can label parts of your boat using letters and words.**

Note to Teacher: Each material is labeled with a word on the student page. Point out the words to students and encourage students to use the words to help label parts of the plan.

 STUDENTS DO: Draw a plan for a boat.

TEACHER DO: Observe student plans, making note of similar ideas for groups tomorrow.

7. TEACHER SAY: **Thank you for working so hard on your plan. Let's share our plans with friends. When we communicate, we might hear ideas that are similar or different. We will play Shake It Share It High Five. Take your student book so you can share your picture. Be sure you tell your partner the materials you want to use.**

TEACHER DO: Facilitate the strategy **Shake it Share It High Five** to pair students for sharing. Allow students to share with at least three other students.

 STUDENTS DO: Share boat plans with others in the class.

8. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: **Today we began using the design process to create a boat that will carry a message. Can ______ come help lead our closing today?**

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share one thing they enjoyed about planning, and one thing that was difficult. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

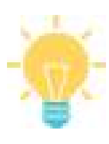
 STUDENTS DO: Share things they enjoyed about planning and things that were difficult.

Lesson 6 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Collaborate to create an initial boat design.	• Build • Plan	• Steps in the design process • Foil • Craft sticks • Paper • Cardboard • Playdough • Yarn • Tape • Glue • Egyptian pound (coin) or other similar weight • Student book

PREPARATION

Before class starts, assign students to groups of three or four students. Look over the student design plans from the previous lesson. Try to create groups based on similar design plans. Arrange the materials for students to use in a central location in the classroom. You can also choose to sort materials for each group based on the initial plans. Consider inviting volunteers into your classroom to support today's lesson.



Learn (90 minutes)

Directions

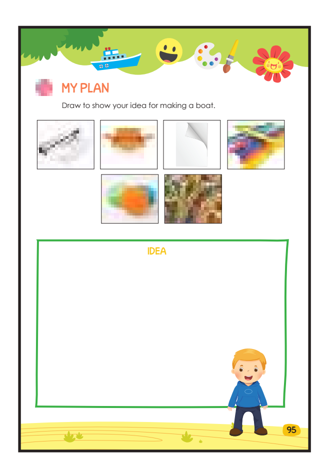
1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: **Yesterday, we began our design process to create a boat to carry a message across the water. Who remembers the first three steps we completed?**

 STUDENTS DO: Offer ideas from memory (ideas, materials, plan).

2. TEACHER SAY: **Today we will move on to the next step in the process: BUILD. You will work in a group to build a boat. The boat will carry a message across my model river.**

TEACHER DO: Move students into predetermined groups based on the plans they drew the previous lesson. Group members should all have some similar ideas for how to create the boat. If you are unable to group students by similar ideas, have the groups you created select one plan to try to build or have the group combine two of the plans. Pass out student books.



TEACHER SAY: **First, say hello to your group members. Remember you are all working together to solve the same problem. We need to listen to each other's ideas. What does it look like if we are being a good listener?**

 STUDENTS DO: Share a way to show being a good listener.

TEACHER SAY: **If something does not work right away, it is okay. What do you think you can do if your idea does not work?**

 STUDENTS DO: Offer ideas.

TEACHER SAY: **You and your group members can work together to think of new ideas. Please open up to the planning page called My Plan. We will take turns sharing our ideas with the new group. Think about how you can put all of your ideas together to make a boat.**

 **STUDENTS DO:** Share plans from previous lesson with group members.

3. TEACHER DO: While students are sharing plans, pass out materials to each group including glue or pre-torn pieces of tape. Each group also needs one coin or similar weight to represent the message the boat will carry.

TEACHER SAY: **It is time to start building. If you hear my Bell while you are working, pause to hear a new instruction. I will pause us as a class after a little while to see how we are doing. Your materials are _________. You can choose to glue, tape, or wrap your materials together with yarn. Just remember that you will have to wait a little for the glue to dry. Also remember that your boat will need to hold a (coin or other weight), which represents our message.**

TEACHER DO: If needed, consider modeling for students how to use a small amount of glue at a time. You can pour liquid glue onto a plate and students can use fingers to dab on glue. As students create, provide 10-15 minutes for students to start. During that time, move around the room to support where necessary.

 **STUDENTS DO:** Collaborate in groups to build a boat.

Note to Teacher: Students can become frustrated during creating time. Frustration is okay. Support students by asking questions to help extend their thinking and problem-solving skills: "Why do you think this is not working? What do you think we can change?"

4. TEACHER DO: Ring the **Bell** after the first 10-15 minutes of building to ask for student attention.

TEACHER SAY: **Thank you for pausing your building. I love what I have seen so far. I like how ______________ (state two or three examples of successes you see students having). I want to use this time to let us share what is working well in your groups. Who wants to share something that your group is doing really well?**

 **STUDENTS DO:** Volunteer to share successes.

TEACHER DO: Call on four or five volunteers to share.

TEACHER SAY: **Now who can share something that is really hard for their group? It is okay if something is hard. Designing and building can be difficult.**

 **STUDENTS DO:** Volunteer to share difficulties.

TEACHER DO: Call on four or five volunteers to share. As students share, continue to frame the struggle as a positive experience. Allowing students to struggle is building perseverance and critical thinking skills. Provide extra support where needed.

TEACHER SAY: **Thank you for sharing your experience so far. We have a little more time to work on our boats. Remember, it is okay if your ideas are not working. That just means you get a chance to think of something new.**

 **STUDENTS DO:** Continue collaborating to build a boat.



TEACHER DO: Move around providing support when necessary to groups. Remind students to make sure boats are large enough to hold the (coin or other weight) before groups finish. If a group finishes before the end of the session, have them turn to the student book page Our First Design early to begin drawing the final structure.

5. TEACHER SAY: **As you finish, you can open your book to the page, Our First Design. You will be drawing the boat you created with your group. Be sure to include details that show how it is different from your individual plan.**

 **READ ALOUD:** **Draw what your boat looks like.**

 **STUDENTS DO:** Draw the boat created today.

Note to Teacher: Groups may finish at different times. Use your judgment for when to stop and give the student book instructions. If groups need the majority of the lesson to complete boats, you can have them draw the boat as review at the beginning of the next lesson. Make sure to label the boats with students' names before collecting them.

TEACHER DO: After the students finish drawing, collect the student boats.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

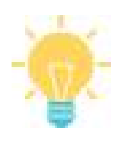
TEACHER SAY: Today we worked together to create a boat design. Can ______ come help lead our closing today?

TEACHER DO: Call up a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 7 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Present initial designs. • Test initial boat designs. • Communicate successes and difficulties.	• Test • Improve	• Boats created in previous lesson • Tub of water • Coins or other similar weights • Chart 0aper



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: Yesterday, we worked together to design a boat. We all had some parts go well—we call these successes. We also all had parts not go well—we call these challenges or difficulties. Let's share about our experiences with each other. We will Shake It Share It High Five. When you talk to a partner, share one success and one difficulty.

TEACHER DO: Model sharing one success and one difficulty before leading students in **Shake It Share It High Five**. Allow students to talk to four or five friends.

2. TEACHER SAY: Today we will test our boats to see how well they work. Then we will think of a way to improve our boats. Improve means to make them better.

TEACHERS DO: Put students back into building groups and hand out the boats created in the previous lesson. Set up a large tub of water where everyone can see it and have five coins or other weights available for the test. Hang up chart paper with a **T-Chart**. Draw a smiley face at the top of the first column. Draw an arrow pointing up at the top of the second column. You will record what students identify as successes and possible improvements. Hang another chart paper on the board if you wish to record class-wide data from the tests (if a boat floats and how many weights it holds).

TEACHER SAY: I will invite each group to the front of the room. Each group will share the materials used for the boat and explain how the boat was put together. Then we will put the boat into the water. If the boat floats, we will add a weight to the boat to represent our message. Let's review. What does each group need to share?



STUDENTS DO: Identify the materials and how the materials were put together as the two parts needed to be shared by the group.

TEACHER DO: Invite groups to test and share, one at a time. Remind group members what to share as needed. Then, facilitate the testing. Place the boat into the water. Allow the class to observe if the boat floats. Ask students to describe what is happening. Ask students to describe what is working and what is not working as the boat is tested. If the boat does not float, stop and have students brainstorm ideas why the boat did not float. If the boat floats, try placing one weight onto the boat. If the boat still floats, count how many weights the boat can hold. Record results on class data chart if desired.

3. TEACHER SAY: Thank you for sharing and testing your boat. Let's identify one great part of the design and one way the design can be improved.

TEACHER DO: Call on student volunteers to identify a success and an improvement for the boat design. Record students' ideas on the T Chart. Then, invite the next group to share and test. Repeat the process for each boat in the classroom.

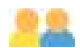
Note to Teacher: The testing and communicating process may take the entire class period. If you feel students need to get up and move, allow students to communicate about a success and improvement using **Shake It Share It High Five**. *You can also choose to stop halfway through testing boats and engage students in* **Shake It Share It High Five** *to discuss all the successes and improvement ideas observed so far.*

TEACHER SAY: Thank you for sharing your designs, testing your boats, and thinking of new ideas. We can always improve on our work to make something even better. Tomorrow we will get a chance to create a boat again by using what we learned today.

4. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today we shared and tested our first boat designs. Can ______ come help lead our closing today?

TEACHER DO: Call on a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 8 Overview

LEARNING OUTCOMES

Students will:

- Redesign boat using feedback.

KEY VOCABULARY

- Redesign

MATERIALS

- T-Chart from previous lesson
- Boats
- Steps in the design process
- Foil
- Craft sticks
- Paper
- Cardboard
- Playdough
- Yarn
- Tape
- Glue
- Egyptian pound (coin) or similar weight

PREPARATION



Hang the T-Chart at the front of the room. Have boats ready to pass out to groups. Also ensure materials are ready for each group to make a new boat. If supplies are limited, you may choose to have students modify the first boat to test again.



Learn (90 minutes)



Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: Yesterday, we tested our boats. We identified successes and difficulties in our designs. Who can share one way you plan to improve your boat?

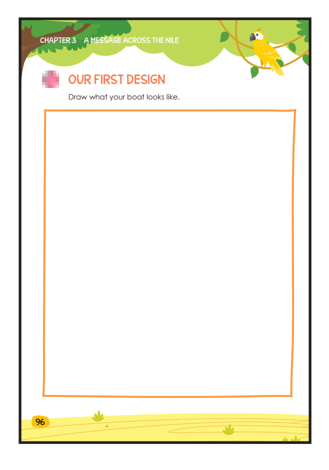
TEACHER DO: Use **Calling Sticks** to have several students share possible improvements to the boats that were previously created. Ask students to explain why.



STUDENTS DO: Identify possible improvements to boat designs.

2. TEACHER SAY: Thank you for sharing what you remember. Let's review what we wrote on our T-Chart yesterday. Listen carefully to what worked well and our ideas for improvements. We will use what we learned to improve our designs.

TEACHER DO: Read through the **T-Chart** ideas as a whole class. Then, move students back into previous building groups and pass out student books and pencils.



TEACHER SAY: Today you will get a chance to redesign your boats. Even if your boat was successful in floating and holding a message, you can make it even better. You can work to make your boat hold more than one weight. Open your books to the page Our First Design.



STUDENTS DO: Open books to the correct page.

3. TEACHER SAY: Look at your first design. Share ideas with your group members. What changes can you make? Do you plan to change any materials? Remember to carefully listen to everyone's ideas. We can learn from each other.



STUDENTS DO: Discuss improvements in groups.

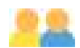
TEACHER SAY: Before we start to improve our designs, let's add our improvements to our pictures. We can communicate our ideas through our pictures. Draw or label the parts of your boat you want to improve.

 **STUDENTS DO:** Draw improvements onto the boat picture.

TEACHER DO: Observe as students add an improvement to the boat picture. Encourage students to talk to other members as they add to the picture. Pass out group boats and extra materials.

TEACHER SAY: We can learn from each other, so let's share our improvement ideas as a class. I will invite each group to share the new ideas they will try today.

TEACHER DO: Call on each group to share new ideas for the boat design. As groups share, identify similar ideas between groups. Ask groups to explain how they thought of the new idea. Help students make the connection between what was previously learned or observed from others to the new ideas. If there are too many groups or time is limited, have groups pair up to share planned improvements with one or two other groups.

 **STUDENTS DO:** Share improvement ideas with the whole class.

4. TEACHER SAY: We are now ready to use what we learned from our testing yesterday to improve our boat design today.

Note to Teacher: Depending on the success of your class in the previous lesson, you can choose either have students "fix" the current boat or attempt to make a new boat. Looking for ways to improve or refine original plans is an important step in the engineering design process. Encourage students to talk through the reasons behind any improvements students make, if time allows. Students should be able to articulate simple reasoning such as "I added more glue because our boat had a leak."

 **STUDENTS DO:** Collaborate in groups to make improvements to the boat design.

TEACHER DO: Move around the room and support groups as needed. Prompt students to explain what is being done and why. If time allows, have students share predictions for how the boat will perform better in the next lesson's test.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today we used what we learned from our tests to improve our designs. Can ______ come help lead our closing today?

TEACHER DO: Call on a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 9 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Test final boat designs. • Communicate an important idea learned in the chapter.	• Redesign	• Data from initial tests • Redesigned boats



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: Yesterday, we collaborated to improve our boat design. Let's share with a Shoulder Partner how we improved our boat designs.

 **STUDENTS DO:** Share an improvement with a **Shoulder Partner**.

TEACHER DO: Move students into boat building groups. Have the data from the first round of testing available for each group if possible.

2. TEACHER SAY: Today we will test our improved boats. We want to see if our improvements help our boats work better. We want our boats to float and carry a message. Remember, what are we using to represent a message?

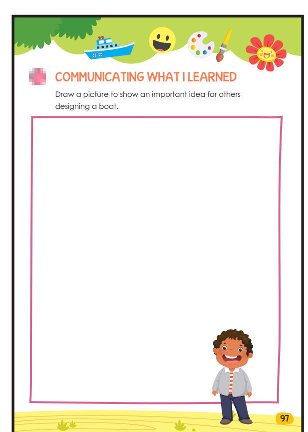
 **STUDENTS DO:** Identify the coin or other weight as the message.

TEACHER SAY: Just like we did the first time, I will put each boat into the water. We will observe if it floats. Then we will see how many coins the boat can hold.

TEACHER DO: Test each boat. After each test, compare the results to how the initial design for the group performed. Use the same process from the previous lesson.

Note to Teacher: If you do not have enough time to test each boat in front of the class, test the boats prior to class and share the data you collect with students, or test only a select few of the redesigned student models. Emphasize with students that even with improvements, failure to float or hold weight is still okay. The important part of the process is the student's ability to identify what could be changed and improved upon if the project was done again.





TEACHER DO: Pass out student books and pencils.

3. TEACHER SAY: Thank you all for working so hard on a challenging project. Let's communicate what we learned. Others can learn from our testing, too. Each group made two boats. But together, we were able to observe and test ____ (state the number of boats created in the classroom) boats. When our friends communicated what worked well and what was difficult, we all discovered new ideas to try. Open your books to the page, Communicating What I Learned.

TEACHER DO: Hold up the correct page for the class.

 **READ ALOUD: Draw a picture to show an important idea for others designing a boat.**

TEACHER SAY: I want you to think about something important you learned about building boats. Maybe you learned something about the best shape or material. Maybe you learned something that did not work well. Draw a picture to share what you learned with next year's students. We will use these pictures tomorrow. Take a moment to think of an idea.

TEACHER DO: Provide **Wait Time**.

TEACHER SAY: Now take time to draw a picture to communicate what you learned.

 **STUDENTS DO:** Draw to communicate an important idea learned in the chapter.

4. TEACHER SAY: Let's communicate what we learned with our friends. We will play a game.

TEACHER DO: Put students into four or six different groups. Then, have two groups stand in the room across from each other. If possible, take the class outside to the play the game. In the group, have students stand in a straight line and face the group across from them.

TEACHER SAY: You will act out sailing your boat across the room. When you reach the person in the group across from you, share what you learned. Then, you will stand at the back of the line and the person who just listened to you will act out sailing a boat back across the room. We will continue until everyone has had a turn.

TEACHER DO: Restate the instructions and model with students to ensure everyone understands the game.

Note to Teacher: Encourage students to sing a boat song or nursery rhyme as they travel in the game.

 **STUDENTS DO:** Act out sailing a boat and share what was learned.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today we saw how important communicating our ideas can be in helping us learn and improve. Can ______ come help lead our closing today?

TEACHER DO: Call on a student to lead closing. The student leader should call on three others to share a new idea learned that day. You can choose to have the student leader use **Calling Sticks** if your students can read names. If not, allow the leader to call on three volunteers.

 **STUDENTS DO:** Share a new idea learned from today's lessons.

Lesson 10 Overview

LEARNING OUTCOMES	MATERIALS	PREPARATION
Students will: • Debrief entire design process.	• Engineer	• Bell • Chart paper • Markers

PREPARATION
Write the class letter template using markers on chart paper. An example is as follows: Dear Class, Last year we completed a fun engineering challenge. We designed a ____to communicate a ____across the Nile. When you brainstorm your idea, you should______. When you build your boat, you should____. Testing your boat is important. Try to _____. Do not think you are done, you need to go back and _____your boat. You can ask other ____ for ideas. Some ways you can improve your boat might be_______. We hope you had fun like we did.



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: **In the last lesson, we improved our boats to carry a message across the Nile. What was easy about making improvements? What was difficult about making improvements?**

TEACHER DO: Use Calling Sticks to choose 3 to 4 students to answer the question.

 STUDENTS DO: Share responses with the class.

2. TEACHER SAY: **An engineer uses math and science to create new things. We used an engineering design process to make our boats.**



TEACHER DO: Pass out student books. Hold up student book page Design Process

TEACHER SAY: **Turn to the page, Design Process in your student book.**

 STUDENTS DO: Find the correct page in the student book.

TEACHER SAY: **This page describes the process we used to design our boats.**

 READ ALOUD: **Point to the pictures as I read the descriptions.**

 STUDENTS DO: Point to the pictures.

TEACHER SAY: **Let's do a Shake It Share It High Five. As you walk around the room, shake your friend's hand, share your favorite part of the design process, explain why it is your favorite, high five them and find someone else.**

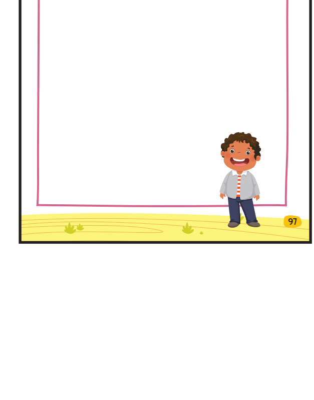
 STUDENTS DO: **Shake It Share It High Five** and share favorite part of the design process.

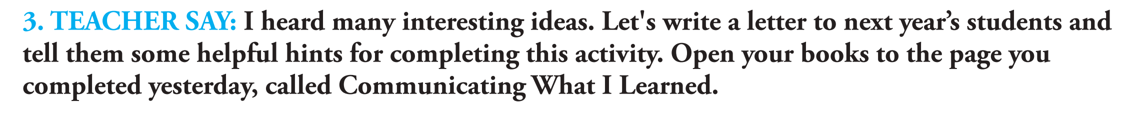
TEACHER DO: Circulate around the room, listening to students sharing. Make note of the part of the design process that most students say they enjoyed. Ring Bell to gather student's attention.

TEACHER SAY: Thank you for a great sharing session. It sounds like many people like the ____part of the design process. You have such great ideas, I wonder if there is a way we can communicate those ideas to my future class. Talk with your Shoulder Partner and come up with a few different ways we can share what we learned.

 **STUDENTS DO:** Share ideas with a **Shoulder Partner**.

TEACHER DO: Circulate around the room, listening to students sharing.





3. TEACHER SAY: I heard many interesting ideas. Let's write a letter to next year's students and tell them some helpful hints for completing this activity. Open your books to the page you completed yesterday, called Communicating What I Learned.

TEACHER DO: Hold up the correct page for the class.

 **STUDENTS DO:** Find the correct page in the student book.

TEACHER SAY: This page will help you think of important things to share with the next class. Share with a Shoulder Partner some ideas you had yesterday.

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.

TEACHER SAY: As I read parts of the letter aloud, we will fill in the missing parts.

TEACHER DO: Using chart paper, create a class letter from current students to next year's students. The class letter template can be created before class and then completed with the students. See the example template in the preparation notes. Call on volunteers for suggestions on how to fill in the blanks.

 **STUDENTS DO:** Volunteer ideas to complete class letter.

TEACHER DO: When the letter is finished, read it out loud, having students read as much as they are able along with you.

TEACHER SAY: Thank you for helping me write this letter to next year's class. You communicated some very good ideas for them. You are helping other students by sharing what you learned.
4. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today we reviewed the design process we used to make our boats and communicated what we learned during the chapter. Can ______ come help lead our closing today?

TEACHER DO: As this is the end of the chapter, and the end of the theme, you may wish to extend the closing of this last session. An example might be to do an extended **Gallery Walk** of all of the student-created projects, or to facilitate several rounds of **Four Corners**, where students move to the area of the room that indicates their favorite idea/learning/activity/project. Students explored various means of communication in this theme, so be sure to vary the reflection options to include oral, written, non-verbal, and artistic expression.




Egyptian Knowledge Bank
بنك المعرفة المصري


CCIMD


2030
EGYPT VISION